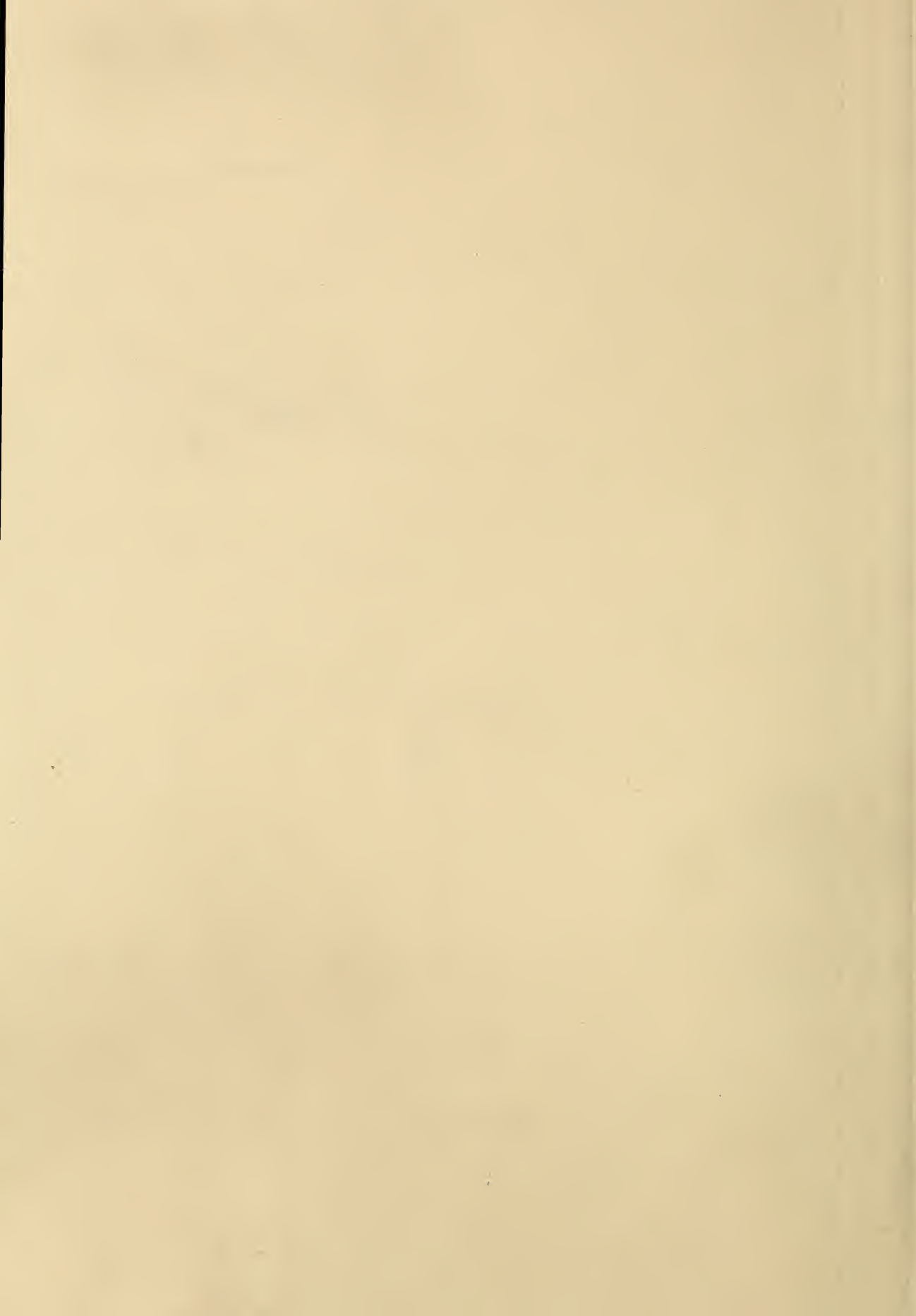


## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



4248  
G77

VOL. XVIII. NO. 20

OCT. 15, 1890.

PEACE ON EARTH  
GOOD-WILL TOWARD MEN



# CLEANING IN BEE CULTURE

DEVOTED  
TO

& HOME INTERESTS.

MEDINA, OHIO

BY

AT ROOT

TERMS, ONE DOLLAR PER YEAR.

LIBRARY  
CURRENT SER  
AUG 26 1895  
U. S. DEPARTMENT OF AGRICULTURE

30  
230  
S. W. Conrad

## DISCOUNTS FOR EARLY ORDERS.

As is our usual custom, we are allowing a liberal discount on orders sent in now for goods to be used next season. After the vexatious delays last spring, it is needless to explain the many advantages secured by those who order early. Not only do you gain by having your goods to put together and get ready for use during leisure time in the winter months all ready for business in the spring, but you secure a sufficient discount to make the investment a profitable one. You also run the chance of getting better goods, made when we are not so rushed, than some we were obliged to send out last spring, made by unskilled workmen on the night force during the "great rush" for supplies. With the increased capacity that our new two-story brick building, 37 x 100 feet, gives us we hope to be better prepared than ever for such an unusual increase of business as we have had the past season. Still, the experience of the past two years has taught that it is not safe to rest with too much confidence on this reasonably good prospect. It is much safer for you to ORDER EARLY. We have secured from Michigan over 100,000 feet of basswood, out of which we are making the whitest and nicest sections we ever turned out. To verify our word, send 5 cents to pay postage on a sample. With a demand equal to last year, the sections made from this lot will be gone by April 1. We may get more equally good, but the chances are in favor of those who order early. Our new revised catalogue will be ready to mail in two or three weeks.

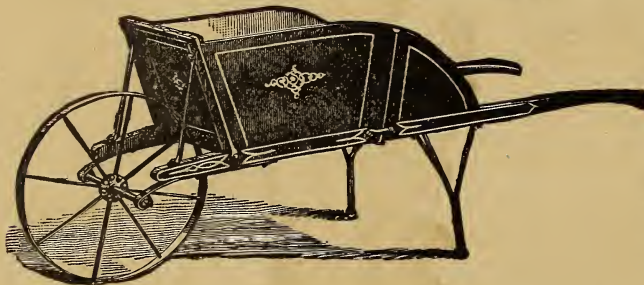
### DISCOUNTS.

The discounts will apply to every thing in our catalogue ordered for next season's use. They can not, of course, apply to large orders for counter goods or honey-packages; but if only a few of them are included with an order for hives, etc., then the discount may be taken from the whole bill.

Up to Nov. 1st, discount will be 5 per cent. After that date, one per cent a month for each month before March; i. e., 4 per cent in November, 3 per cent in December, 2 per cent in January, and 1 per cent in February.

A. I. ROOT, Medina, O.

## OUR DAISY WHEELBARROW.

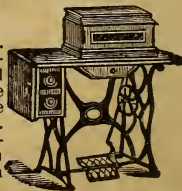


Who has not felt the need of a **Light, Strong, and Durable**, and at the same time **Cheap** wheelbarrow? The cut shows one that combines all these qualities better than any other we have ever seen. We have two sizes—the smaller one weighing only 35 lbs., and yet it will carry 500 lbs. safely, and it can be packed so closely together for shipment that you can take the whole thing under your arm and walk off easily. The wheel has flat spokes instead of round. The legs are steel, so they will neither break nor bend, even if you bump them on the sidewalk.

The springs are oil-tempered with adjustable bearings, so the wheel will always run free. More than all, the wheelbarrows are the nicest job of painting and varnishing, I believe, I ever saw, for a farm implement. They are handsome enough to go around town with, and strong enough to do heavy work; and yet the price of the small size No. 3 is only \$4.00; the larger size No. 2 is \$4.25. Over 200 sold in 8 months.

### SINGER SEWING-MACHINE, \$11 TO \$16.

Made from latest models; first class in every respect, and warranted for 5 years. A boon to many an overworked housewife who can not afford to pay the price usually asked by agents. Cut shows No. 3. No. 1 is the same without the cover, leaf, and two drawers. Price \$11.00. No. 2 has a cover, but no leaf or side drawers. Price \$12.50. No. 3, as shown in the cut, price \$14.00. No. 4, same as No. 3, with 2 more drawers to the right. Price \$15.00. No. 5 has 3 drawers on each side. Price \$16.00. Wood parts are oil polished, walnut; balance-wheel is nickel plated, and each machine includes a full set of attachments, with instructions for use. We ship them direct to customers from factory in Chicago. We have a catalogue giving cut of each machine and full description which we shall be pleased to mail on application.



## BUCKEYE SASH-LOCK.

A DEVICE TO FASTEN WINDOWS UP OR DOWN AT ANY POINT

For many years I have been trying to get something better to hold a window up than a stick or book, or something of that sort; but although we have tried them, ever, paying as high as 75 cts. per window, I have never had any thing please me so well as the one here shown. This device holds the sash securely by friction in any desired position, as tight as if it were in a vise. It prevents the sash from rattling, and excludes the dust by making tight joints, and yet it does not mar the wood. It is put on with two screws, and can be fitted by an inexperienced hand in three minutes. It works equally well on upper or lower sash, with or without weights. Printed instructions are furnished with each one, as well as screws to fasten them on with, and yet the price is only 5 cts.; 1 doz. for 50 cts.; 100 for \$4.00. If wanted by mail, add 3 cts. each extra. The above are japanned.



A. I. ROOT, Medina, Ohio.

## Contents of this Number.

Australia .....	735	Laying in Queen-cells.....	735
Automatic Sw'g a Success.....	748	Moth, Imperial.....	736
Bicycling .....	748	Nectar from Red Oak.....	736
Bumble-bees.....	736	Nysewander's Exhibit.....	738
Comb, Bees to Empty.....	746	Outside Shell.....	742
Commission, Selling on.....	738	Reversible Ext. McIntyre's.....	732
Discounts, Discrimination.....	746	Running from Bee-keeper.....	749
Dovetailed Hive Modified.....	744	Sections, Obnoxious.....	735
Fixed Frs. for D. ve. Hive.....	714	Snake, Blow.....	736
Foul Brood Cured by A B C.....	741	Spacing Combs 1%.....	734
Foul-brood Inspector.....	740	Spec Grav. of Aus. Honey.....	736
Gardening, A. I. Root's.....	750	Strawberries Thick or Thin.....	751
Goldenrod.....	757	Strawberries, Hend's Plan.....	752
Gravenhorst's Letter.....	733	Swarming, Automatic.....	748
Holy Lands Discussed.....	731	Syrains Discussed.....	731
Hybrids.....	Q. B. 752	Tent, Folding Bee.....	732
I. A. B. A. at Keokuk.....	741	Traveling in York State.....	743
Ignotum in Australia.....	736	Wax per Colony.....	735
Italians vs. Hybrids.....	736	Wheat-joint Worm.....	737

# Send 25c

For my Book of Discovery  
and Invention.  
**The Queen Restrictor.**  
Address

20d

C. W. DAYTON, Clinton, Wis.

In responding to this advertisement mention GLEANINGS.

**500 Italian Queens** For Sale. Tested. \$1.10,  
three for \$3.00. Untested,  
70 cts. each; three for \$2.00. Also bee-keepers'  
supplies, etc. 16-page circular free. 15tfdb  
JNO. NEBEL & SON, High Hill, Mo.

**BARRED PLYMOUTH ROCK COCKERELS**, \$1.00;  
hens, 75c. Also Quincy live corner clasps for  
sale. 20tfdb L. C. AXTELL, Roseville, Ill.

**FOLDING PAPER BOXES.**  
**CRAWFORD'S SECTION CARTONS**  
**ARE THE BEST.**

Send for free sample and price list, and find out  
the reason. A certain fact has come to our knowl-  
edge that is worth dollars to you. Send for it.

A. O. CRAWFORD, S. Weymouth, Mass.

12tfdb

Please mention this paper.

**BEES** SEND for a free sample copy of the  
**BEE JOURNAL** 16-page Weekly  
at \$1 a year—the oldest, largest, and  
cheapest Weekly bee-paper. Address  
16tfdb **BEE JOURNAL, Chicago, Ill.**

## To BEE-KEEPERS!

IN ADDITION to our New England **Honey Trade**  
we have leased a Store in New York City (in the  
best possible location to catch the Grocery Trade),  
and propose handling

### COMB AND EXTRACTED HONEY

there. As we have been practical Bee-Keepers and  
have had some 12 years' experience in the Honey  
Trade (during which time we have handled MORE  
HONEY than any House in New England), we feel  
justified in saying that we understand the Honey  
Trade, and think we can handle your **Surplus**  
**Honey** to the very best advantage.

We shall endeavor to make Quick Sales at the  
**very highest prices**, and by making prompt re-  
turns we hope to merit your patronage. Advances  
made when requested. Stencils furnished—also  
printed instructions for Packing and Shipping, giv-  
ing valuable information gained by our experience  
in Shipping Honey by the Ton and in Carload lots.

Correspondence, Visits, and Consignments Solicit-  
ed. Address

## F. I. SAGE & SON,

183 Reade St., - - NEW YORK, N. Y.

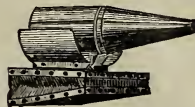
No Consignments received at Wethersfield,  
Conn.

REFERENCES.—Bradstreet's and Dunn & Co.'s Com-  
mercial Reports, under **Wethersfield, Conn.**, heading,  
and the numerous Bee-keepers whose Honey we  
have handled the past 12 years.

18-23db

Please mention this paper.

## \*BEST ON EARTH\*



ELEVEN YEARS  
WITHOUT A  
PARALLEL, AND  
THE STAND-  
ARD IN EVERY  
CIVILIZED  
COUNTRY.



Bingham & Hetherington  
**Patent Uncapping-Knife,**

Standard Size.

### Bingham's Patent Smokers,

Six Sizes and Prices.

Doctor Smoker,	3½ in.,	postpaid	...\$2.00
Conqueror "	3 "	"	... 1.75
Large "	2½ "	"	... 1.50
Extra (wide shield) "	2 "	"	... 1.25
Plain (narrow " "	2 "	"	... 1.00
Little Wonder,	1½ "	"	... .65
Uncapping Knife.....			... 1.15

Sent promptly on receipt of price. To  
sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count cor-  
rectly. Am ready for orders. If others feel as I do  
your trade will boom. Truly, F. A. SNELL.

Vermillion, S. Dak., Feb. 17, 1890.

SIRS:—I consider your smokers the best made for  
any purpose. I have had 15 years' experience with  
300 or 400 swarms of bees, and know whereof I speak.  
Very truly, R. A. MORGAN.

Sarahsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service  
since 1883. Yours truly, DANIEL BROTHERS.

Send for descriptive circular and testimonials to  
1tfdb **BINGHAM & HETHERINGTON, Abonia, Mich.**

In responding to this advertisement mention GLEANINGS.

## DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman &  
Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas.  
Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury,  
Neb.; G. L. Tinker, New Philadelphia, O.; E. Kretch-  
mer, Red Oak, Ia.; P. L. Viallon, Bayou Goula, La.,  
Jos. Nysewander, Des Moines, Ia.; C. H. Green,  
Waukesha, Wis.; G. B. Lewis & Co., Watertown,  
Wisconsin; J. Mattoon, Atwater, Ohio, Oliver  
Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg,  
Illinois; Geo. E. Hilton, Fremont, Mich.; J. M.  
Clark & Co., 1517 Blake St., Denver, Colo.; Goodell  
& Woodworth Mfg. Co., Rock Falls, Ill.; **E. L. Gould**  
& Co., Brantford, Ont., Can.; R. H. Schmidt &  
Co., New London, Wis.; J. Stauffer & Sons, Nappa-  
nee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.;  
E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen,  
Davenport, Ia.; C. Theilman, Theilmanton, Minn.;  
G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler,  
Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis.,  
Walter S. Pouder, Indianapolis, Ind., and numer-  
ous other dealers.

## LANGSTROTH on the HONEY-BEE,

REVISED.

*The Book for Beginners, the Most Complete Text-  
Book on the Subject in the English Language.*

**Bee-veils of Imported Material, Smo-  
kers, Sections, Etc.**

Circular with advice to beginners, samples of  
foundation, etc., free. Send your address on a  
postal to  
4tfdb **CHAS. DADANT & SON,**

HAMILTON, HANCOCK CO., ILLINOIS.

In responding to this advertisement mention GLEANINGS.

**SCOTCH RABBITS.** Will sell a few gray  
Scotch rabbits, Samuel Wilson's strain, at \$3.00  
per pair. Order quick if you want any. 19tfdb  
E. HOSTETLER, East Lynne, Mo.

## SPECIAL NOTICES.

### DISCOUNTS FOR EARLY ORDERS.

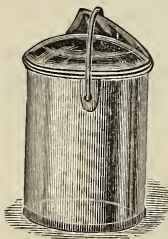
We call your attention to our advertisement on the cover of this number, setting forth the advantages of sending your orders early for goods for next season's use. Five per cent allowed on orders during the next two weeks. Remember, this does not apply to honey, honey-packages, and such goods for immediate use or sale.

### PERFORATED ZINC ADVANCED AND IMPROVED.

We have for a year past received at intervals of several months notice of a slight advance in sheet zinc. These advances now aggregate so much that we are compelled to advance the list price 20 cts. per sheet, 28x96, and 20 c. on 10 honey-boards Nos. 1, 2, 3, 4, and 13. Revised table of prices will be given in next number. To compensate you for this advance we wish to say that we have just completed a new die for our zinc-perforating machine at an expense of about \$75, and we have spared no pains to make it absolutely perfect. Each of the 70 holes in the die measures exactly  $\frac{1}{16}$  of an inch, which is accepted as the correct size by several experts who have made exhaustive tests and experiments. The zinc we have made for two years past has given good satisfaction generally. But a few have reported that some queens will go through it. The new zinc will effectually stop all queens and still allow the workers to pass freely. Dealers in making up their price lists will please take notice of the above advance in the list price.

### SELF-SEALING HONEY-JARS.

A few weeks ago our attention was called to a new jar for honey by M. H. Hunt. He had some at the Detroit exposition, and spoke of the way it seemed to please all who saw it. He kindly gave us the name of the manufacturers, and we wrote them at once for sample, and now have 15 bbls. of them in stock. The adjoining cut shows what they are like. The cover is glass with a rim inside projecting down about  $\frac{1}{8}$  of an inch, and between the cover and jar is a rubber band. On the cover is a circular raised place with a notch in the top. The tinned wire bail of No. 13 wire has both ends hooked into holes in the side like the oaken bucket tumbler or like a common wooden pail. Of course, the holes don't go through the glass. This bail is pressed up the oval incline till it snaps into the notch on top, which seals the jar as tight as a Mason fruit-jar. There are two sizes, one holding 10 or 11 oz. of honey, the other about 14 oz. We have them put up 150 in a bbl., either size. Price of large size, \$8.60; of the small size, \$8.00 per bbl. For a smaller quantity the price will be 8 cts. each, or 75 and 70 c. per doz., respectively. No charge for packages. In 5-bbl. lots direct from Pittsburg, Pa., 10 per cent discount from above prices by the bbl.



into the notch on top, which seals the jar as tight as a Mason fruit-jar. There are two sizes, one holding 10 or 11 oz. of honey, the other about 14 oz. We have them put up 150 in a bbl., either size. Price of large size, \$8.60; of the small size, \$8.00 per bbl. For a smaller quantity the price will be 8 cts. each, or 75 and 70 c. per doz., respectively. No charge for packages. In 5-bbl. lots direct from Pittsburg, Pa., 10 per cent discount from above prices by the bbl.

### GLEANINGS FREE FOR THE REST OF 1890 TO NEW SUBSCRIBERS.

Now is the time for getting up clubs of subscribers and extending the influence of GLEANINGS. To make a greater inducement for those not acquainted with it to join our circle of readers, we will give the rest of 1890 free to new subscribers for one year; that is, all new subscriptions received after this date will receive GLEANINGS from the time the subscription is received till Jan., 1892, for \$1.00. We will also include the *American Bee Journal* on the same terms for 75 cts. extra; *The Illustrated Home Journal* for 35 cts. extra, or all three for \$2 15. You never had such an opportunity before of getting three such journals and such a length of time for so small a price.

### GLEANINGS, 3 MONTHS' TRIAL TRIP, FOR 15 CTS.

If there are some who will not accept any of the offers above we are still desirous of having them become acquainted with GLEANINGS, and offer to send it 3 months on trial for only 15 cents. The journal will be stopped at the end of this time, unless you send a request to continue. Think of it—

six numbers of GLEANINGS for only 15 cents! Will not many of our readers endeavor to introduce it to other homes on these easy terms?

### SENDING GLEANINGS AFTER THE TIME PAID FOR.

We have adopted the plan of many papers, of sending GLEANINGS right along until we receive orders to discontinue; and the great majority of our readers who have expressed their opinion are pleased with this arrangement. It is more convenient to include a dollar with a remittance for an order for goods whenever one is sent in, and it isn't pleasant to have the journal stop when you want it to come along. We therefore continue it till we get orders to discontinue, because this plan pleases the majority. There are some, however, who take exceptions to it; and we want to say to these that we can accommodate them also if they will say, when they send their subscription, that they want it stopped when the time paid for is up. Unless you do this we shall keep it going till we have orders to stop it.

### OUR BEAUTIFUL OCTOBER.

Did anybody ever know the like of it? Here it is the 14th day of October, and our garden-stuff is all growing and ripening as in June or July. Not even the lima beans have been injured by frost. We are having the finest cabbage, cauliflower, late Mammoth Sugar corn, cucumbers, lettuce, melons, peas, peppers, pumpkins, radishes, spinach, squashes, and last, but not least, the nicest Ignotum tomatoes we ever had in the world, and in the greatest abundance right here in the middle of October. And, oh my! how the strawberry plants do grow! Our turnips have not as yet had frost enough to be real sweet, but they are growing beautifully. My friend, have you forgotten to be thankful?

### CONVENTION NOTICES.

The next convention of the Turkey Hill Bee-keepers' Association will take place at the Turkey Hill Grange Hall, near Wilderman's Station, three miles southeast of Belleville, Ill., Oct. 30, 1890. All interested are invited. S. BRAUTIGAN, Pres.

The Missouri State Bee-keepers' Association will meet in convention at Mexico, Mo., Oct. 22 and 23. A good programme, and an instructive and interesting time is expected. All persons interested in bee culture are cordially invited to attend. Good board can be obtained for 75 cts. per day, or 20 cts. per meal. J. W. ROUSE, Sec., Mexico, Mo.

## KIND WORDS FOR OUR STRAWBERRY-BOOK.

The small treatise on A B C of Strawberry Culture, by Messrs. T. B. Terry and A. I. Root, is a big book in a small compass. It is primarily a farmers' book, and we would advise every farmer reader of ours to get one and read it.—*The Poultry Monthly*.

A B C of Strawberry Culture is the name of a neat pamphlet of 150 pages, by Messrs. T. B. Terry and A. I. Root. It covers the whole subject in an interesting manner, is nicely illustrated, and is just the work for those beginning to grow delicious strawberries. Price, postpaid, 40 cents. For sale at this office.—*American Bee Journal*.

An excellent little book is T. B. Terry's A B C of Strawberry Culture, just from the press of A. I. Root, Medina, Ohio. It contains 144 pages and a large number of illustrations, and will no doubt be of great value to all beginners in strawberry culture who have the good judgment to buy a copy and use it judiciously. The price is only 40 cents by mail.—*Colorado Farmer*.

I received from you a copy of Terry's book on strawberries, for which I am very much obliged. I have read every word of it carefully. As I raised strawberries in former years by the acre, I will just say it is a splendid book for beginners, and many growers could learn very much from it. Platteville, Wis., Sept. 27, 1890. E. FRANCE.

A B C of Strawberry Culture is the title of a little book of 144 pages, written in two parts, the first by T. B. Terry, the well-known agricultural writer, who writes from his farm and what he sees and does, and not as a theorist. The other part is written by A. I. Root, the charming editor of *Gleanings in Bee Cul-*

ture. The book is a plain, practical set of directions for selecting, planting, cultivating, gathering, and marketing the berries. It is a common-sense sort of book, charmingly written, and we can only wish it were in the hands of every farmer in the land.—*The Western Farmer and Stockman*.

We have received from the authors, T. B. Terry and A. I. Root, a little book entitled the A B C of Strawberry Culture. It is really what its title indicates, and gives in plain matter-of-fact language practical suggestions regarding varieties, methods of planting, etc., so that a beginner, by following instructions, need not err in his efforts at growing strawberries.—*The Grange Visitor*.

The A B C of Strawberry Culture is the title of a little book by T. B. Terry, published by A. I. Root, Medina, O. The author has the candor to admit he has made mistakes, and has learned by experience enough about growing strawberries to make his little book of instructions well worth the price.—*Our Rural Homes*.

## Black and Hybrid Queens For Sale.

I have 30 nice hybrid and 35 young black queens for sale. Send me 50c and get one of them.  
16-17-18d A. D. ELLINGWOOD, Berlin Falls, N. H.

A few mismated Italian queens, young and prolific. Price 20c each. Order by postal and pay when queens arrive.  
C. A. BUNCH, Nye, Ind.

## FOR SALE.

### 100 Colonies of Italian and Hybrid Bees

In two-story Simplicity hives (ten frames) chock full of bees, and plenty of honey for winter, wide frames, T supers; with sections and starters in upper story, complete, for \$2.50 per colony, or offers.

ALBERT ARNOLD,  
Newark, Independence Co., Ark.

In responding to this advertisement mention GLEANINGS.

## PURE ITALIAN QUEENS.

I have requeened my own apiary, with Italian queens from Alley's \$100.00 queen. They are large and very light colored. I have a stock of fine young queens reared from the best of these, that I offer for 75 cts. each, or three for \$2.00. Tested, \$1.50 each. No black bees near here. Can fill orders promptly, and will guarantee safe arrival. Make money orders payable at Flint, Mich.  
15tfdb

ELMER HUTCHINSON,  
Rogersville, Genesee Co., Mich.

In responding to this advertisement mention GLEANINGS.

## SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap.

NOVELTY CO.,

6tfdb Rock Falls, Illinois.

Please mention this paper

## EUREKA FRAME MACHINE.

Something every bee-keeper should have.  
For price and particulars address

24-23db F. W. LAMM,  
Box 106, Somerville, Butler Co., O.

Please mention this paper.

24-23db

## "HANDLING BEES." Price 8 Cts.

A chapter from "The Hive and Honey Bee, Revised," treating of taming and handling bees; just the thing for beginners. Circular, with advice to beginners, samples of foundation, etc., free.  
5tfdb

CHAS. DADANT & SON,  
Hamilton, Hancock Co., Illinois.

In responding to this advertisement mention GLEANINGS.

## Wants or Exchange Department.

WANTED.—I will exchange sewing-machines, new, and fruit-trees, for honey. Address  
15-24db E. PETERMAN, Waldo, Wis.

WANTED.—To exchange all kinds of nursery stock, peaches, pears, grapevines, raspberries, strawberries, etc., for foundation, beeswax, empty combs, or offers. Address T. G. ASHMEAD, Williamson, N. Y.

WANTED immediately.—A man to take entire control of 150 colonies of bees. For particulars address  
10-20d S. A. SHUCK, Liverpool, Ill.

WANTED.—To exchange new Dibbern tin bee-escapes, brood-frames or hives, for empty combs (either L. or Heddon frame), foundation, or any other supplies. Write  
19-20d E. F. QUIGLEY,  
Unionville, Putnam Co., Mo.

WANTED.—To exchange Italian bees in L. hives, for two well-trained fox-hounds. Apply at once to J. B. MITCHELL, Hawkinsville, Pulaski Co., Ga.  
19-20d

WANTED.—To exchange Ply. Rock fowls, fine stock, for a lot of empty L. combs for extracting, or offers. T. G. ASHMEAD, Williamson, N. Y.  
18tfdb

WANTED.—To exchange bee-hives for bees, will guarantee satisfactory hive.  
18tfdb LOWRY JOHNSON, M'F'r, Masontown, Fay. Co., Pa.

WANTED.—To exchange apiary of 150 colonies of bees. Will take any kind of farm stock, goods or groceries. ANTHONY OPP, Helena, Ark.

WANTED.—To exchange a 200-egg Excelsior incubator, used one season; cost \$25.00, for photographic outfit, books, or best offers.  
19-20-21d O. S. COMPTON, Glenwood, Cass Co., Mich.

WANTED.—To exchange a fine 2-year old registered Jersey bull, for extracted or comb honey, or offers.  
19-20d B. T. BALDWIN, Marion, Ind.

WANTED.—To exchange a 6x9 self-inking press, an excellent outfit; cost me \$80.00; four fonts of type.  
19-20d L. L. ESENHOWER, Reading, Pa.

WANTED.—To correspond with parties having potatoes, onions, apples, and honey for sale. Prompt attention given to correspondence. Consignments solicited. Prompt returns made.  
EARLE CLICKENGER, 121 So. 4th St., Columbus, O.

WANTED.—To exchange a three-sided 8-inch molder or sticker, for a pony planer, or I will exchange hives or one-piece sections for planer.  
GEO. H. KIRKPATRICK, Portland, Ind.

WANTED.—To exchange bees, for a lathe, with scroll-saw attachment, a "Goodell" preferred. Write first, giving description.  
O. G. JOSEPHANS, Owosso, Mich.

WANTED.—To exchange full colonies of Italian bees and strawberry-plants, for comb or extracted honey. Make offers to  
S. F. REED, N. Dorchester, N. H.

WANTED.—To exchange 5000 Jessie strawberry-plants and maple syrup, for Flobert rifle shotgun, ferrets, fruit-trees, grapevines, or any thing useful.  
BEN ZURCHER, Apple Creek, Ohio.

WANTED.—To exchange strong Cuthbert raspberry plants, for aparian supplies or offers.  
CHAS. HOWELL, Hackettstown, N. J.

WANTED.—To sell or exchange a hen (6 hens and 1 cock) of S. L. Wyandottes, Menger's strain, for nice extracted or comb honey. State price of honey.  
W. M. BOLTON, McComb, Hancock Co., Ohio.

MY surplus stock of Italian queens at 50c each. They are young, laying, and pure bred.  
E. D. ANDREWS, North New Salem, Mass.

## HONEY COLUMN.

### CITY MARKETS.

**NEW YORK.**—*Honey.*—Market remains in a very good condition, and we are making quick sales at high prices. Fancy white, 1-lb., 16@18c; fair white, 14@16; 2 lb., white, 14@15; fair, 13@14; buckwheat, 1 lb., 12@13; 2 lb., 10@11. Extracted, white, 7½@8½; buckwheat, dark, 6½@7. *Beeswax.*—Demand is small and prices declining in consequence of the effect of the McKinley bill, which makes beeswax free, whereas there was a duty of 20 per cent on the article formerly. F. G. STROHMEYER & Co., 122 Water St., N. Y.

Oct. 8.

**NEW YORK.**—*Honey.*—Comb honey is now arriving more freely, but not enough to supply the demand. The market is firm, and following prices are obtainable: Fancy white, 1 lb., 16½@18; 2 lb., 15@16c; off grades, 1 lb., 14@16; 2 lb., 13@14; buckwheat, 1 lb., 12@13; 2 lb., 11@12. Extracted, white clover or basswood, 8@8½; buckwheat, 6@6½; California, white, 7@7½; amber, 6½@7; Southern, 6½@7½c per gal.

HILDRETH BROS. &amp; SEGELKEN.

Sept. 27.

28 &amp; 30 W. Broadway, N. Y.

**ALBANY.**—*Honey.*—We have received up to date, 872 cases of comb, and 73 half-bbls. of extracted honey. On Sept. 29 we sold every case we had in store, except four cases of old honey. Have never been able to do that before so early in the season. Prices are firm, as follows: Fine white clover, 18c; medium grade, 15@16; buckwheat, 11@13. Extracted, 7@9.

CHAS. McCULLOCH &amp; Co.,

Oct. 8.

339 Broadway, Albany, N. Y.

**CINCINNATI.**—*Honey.*—Demand is good for all kinds of extracted honey, and in all shapes, with a fair supply on the market. There is no comb honey on our market. A good deal could be sold, but no famine is created. Extracted honey brings 5½@8 cts. a lb. on arrival. Prices for comb honey are nominal at 14@16 cts. a lb. in the jobbing way. *Beeswax.*—There is a good demand for beeswax at 24@26 a lb. on arrival for good to choice yellow.

Oct. 8.

CHAS. F. MUTH,  
Cincinnati, Ohio.

**COLUMBUS.**—*Honey.*—White clover scarce, selling at 18@20 cts. for choice goods in 1-lb. sections. Prospects never better for selling large quantities. Extracted selling at 10@12 cts. per lb.

Oct. 7.

EARLE CLICKINGER,  
Columbus, O.

**KANSAS CITY.**—*Honey.*—We quote white 1-lb. comb at 16@18 cts.; dark, 12@14. Receipts light. We have received several cars of comb and extracted from California. We quote 1-lb. same as native; quote 2-lb. comb, white, 15@16. Extra C. and C., 14@15; extracted, 6@7 cts. *Beeswax*, 25 cts.

CLEMONS, MASON &amp; Co.,

Oct. 10.

Kansas City, Mo.

**CHICAGO.**—*Honey.*—Honey sells quite well, and that which is white and otherwise desirable brings 17@18c; but many lots are off in color, stained or dark; such is slow of sale at about 15c. Extracted, in 60-lb. cans and barrels, 7@8c, according to color, body, and flavor. The offerings are fair of all kinds, with a steady demand. *Beeswax*, 27.

R. A. BURNETT,

Oct. 7.

161 So. Water St., Chicago, Ill.

**BOSTON.**—*Honey.*—We quote our market on honey strong, 17@18 for white 1-lb. combs; 16@17 for white 2-lb. comb; 7½@8 for extracted. No *Beeswax* on hand.

BLAKE &amp; RIPLEY,

Oct. 9.

Boston, Mas.

**ST. LOUIS.**—*Honey.*—There is no change in the situation. Comb honey continues very scarce, and would command a good price if choice. We quote: Extracted and strained, in bbls., 5½@6; cans, 7½@8½. Comb, choice white clover, 15½@16; dark, 13½@14½. *Beeswax*, prime, 27.

D. G. TUTT GROCER CO.,

Oct. 9.

St. Louis, Mo.

**DETROIT.**—*Honey.*—No white comb honey to be had. Fall or dark is selling at 14@15c. Extracted, 7@8. *Beeswax*, 27@28. M. H. HUNT, Bell Branch, Mich., Oct. 9.

**MILWAUKEE.**—*Honey.*—This market is in good condition for honey. The demand is steady, and good values maintained, while the supply is fair to meet the amount demanded. Will quote choice white 1-lb. sections, 17@18; good, 16@17; dark, or old, 10@12. Extracted, in bbls., white, 8½@9½; in kegs or tin, 9@9½; dark, bbls. or kegs, 6@7. *Beeswax*, 26@30.

A. V. BISHOP,

Oct. 11.

Milwaukee, Wis.

**FOR SALE.**—400 lbs. of fine white-clover honey, in 1-lb. sections, in any amount to suit. Price 16c per lb.

HENRY WILSON,

Box 260, Clinton, Dewitt Co., Ill.

**FOR SALE.**—1000 lbs. extracted honey, all from basswood, and of excellent quality, in kegs of 50 to 200 lbs. capacity. Price 8c per lb., on board cars at Durand, Wis. Address

FRANK MCNAY, Mauston, Wis.

**WANTED.**—Extracted honey. Give kind, quality, and price. F. A. SALISBURY & Co., Syracuse, N. Y.

**FOR SALE.**—1000 lbs. of extracted honey, at 9c, in 60-lb. tin cans. Will deliver at R. R. My honey is very nice white clover, thick and white.

CALVIN LOVETT, Otsego, Allegan Co., Mich.

**FOR SALE.**—1200 lbs. extracted clover honey, in 60-lb. cans, at 10 cts. here.

R. H. BAILEY, Box 81, Ausable Forks, N. Y.

**FOR SALE.**—About 1600 lbs. fine clover honey, in two solid iron-bound well-waxed barrels. Price 8c per lb. here.

O. H. TOWNSEND,  
Alamo, Kal. Co., Mich.

**FOR SALE.**—5600 lbs. well-ripened extracted honey, in 60-lb. cans. C. H. STODDICK, Durand, Ill. 18-23db

**FOR SALE.**—1000 lbs. white alfalfa comb honey, in 12-lb. cases, at 16c per lb.; also 4000 lbs. extracted, very fine, in 75-lb. cans, at 10c per lb.

J. T. CLAPP, Supt. Denver Land Co.,  
19-22db Broomfield, Boulder Co., Colo.

**WANTED.**—One or two thousands pounds of nice comb honey. Write, giving amount on hand and price wanted. A. D. ELLINGWOOD, Berlin Falls, N. H. 17tfdb

**WANTED.**—White comb and extracted honey; state price, package, etc. B. WALKER. 17tfdb  
Capac, Mich., or Prairie du Chien, Wis.

**FOR SALE.**—50,000 lbs. of extra fine sage honey in 60 lb. tin cans. Also two carloads of light amber honey, for sale at 6c per lb.; f. o. b.

L. E. MERCER & SONS, Ventura, Ventura Co., Cal.  
19tfdb

**FOR SALE.**—25,000 lbs. of the very finest honey, in scant 1-lb. sections; put up in white basswood cases, holding 12 sections. A very fancy lot. The price, is 20c per lb. on board cars here. Who wants the lot? Address L. W. BALDWIN & SON, Independence, Mo. 19tfdb

**FOR SALE.**—50 one-gal. tin cans of white clover extracted honey; very fine and white, beginning to granulate some. I want 10 cts. per lb. here

G. L. JONES, Grand Ridge, LaSalle Co., Ill.

## NEW FACTORY.

We will soon be in our new factory, which will be the largest and most complete in the world. We shall make the best of goods at lowest prices. We are ready for contracts for next season's supplies. Write us.

G. B. LEWIS &amp; CO.,

17-tfdb

WATERTOWN, WIS.

## FOR LIGHT AND DARK FERRETS,

and pure Poland-China Swine, address

N. A. KNAPP,  
Rochester, Lorain Co., O.

In responding to this advertisement mention GLEANINGS.



Vol. XVIII.

OCT. 15, 1890.

No. 20.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

*Established in 1873.*

PUBLISHED SEMI-MONTHLY BY

*A. I. ROOT, MEDINA, OHIO.*

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18 cts. per year extra. To all countries NOT of the U. P. U., 42 cts. per year extra.

#### SYRIAN BEES.

##### AN UNFAVORABLE OPINION OF THEM.

A correspondent writes that he is thinking of going into bee-keeping, and says: "I am thinking of starting with the Syrian bees. What do you think of them as honey-gatherers? A bee-keeping friend tells me that they are very prolific, and says he values prolificness in a queen above all other qualities. Is this right?"

Well, to a certain extent, yes; to a certain extent, no. A queen should be prolific at the right time; and if she is thus, it is of great value; if prolific at times when her brood comes on the stage of action when there is no honey to gather, her prolificness counts for naught. If your friend had modified his statement so as to make it read that he valued the prolificness of a queen above all other qualities when it could be so regulated that such prolificness would be of the greatest value to the bee-keeper, I would hold up both hands for it; but if his writing thus is to be interpreted to mean that he regards the prolificness of a queen at all times of the year above all other qualities, I must say that I think he is making a mistake. Here, where we have but about six weeks during the whole season in which the bees make any gain in honey, what we want is a queen that can be coaxed to fill the hive to overflowing with brood during a few weeks previous to this honey-harvest, and lay just as few eggs at all other times as is consistent with accomplishing the above object. If your friend had a piece of work which he must accomplish at a certain time, if he were to receive any profit therefrom he would hire his help before the time expired or not at all. If he wished help at a certain time and they did not come until it was too late, surely he would not keep and board them six or eight months because it was not convenient for them to come sooner. Oh,

no! he would tell them that he did not want them, for it was too late. So I say, that, when bees come to the stage of action in any great abundance *after* the honey-harvest is past, it is a damage to the apiarist rather than an advantage. Why I prefer the Italian bees to all others is for the reason that they are more susceptible of being handled so as to get the hive overflowing with bees at just the right time than are the bees of any other race. Also, as soon as the honey-harvest arrives the queen will cease her prolificness, and thus we do not have a lot of "hungry hands" to board when they are of no use to the apiarist. To show that I am not alone in this, I will quote the following from one of our largest honey-producers:

"I get very much the best results from my purest and most yellow Italians. The Italians seem to be very much more disposed to partially stop brood-rearing, and bend all their energies to honey-gathering, whenever there is a heavy flow of nectar, than any other kind of bees which I have tried, and this is a very great advantage."

Now to the question about Syrian bees. That they can not be managed so as to fill the above requirements in this locality, is why I am averse to them, and I think that any one is making a mistake in selecting them as the bees with which to start an apiary. With me they would not start a large amount of brood at any other time save in a heavy flow of honey, and this I think is one of the worst faults that any race of bees can possess; for an extra amount of brood during the honey-yield always means a multitude of mouths to feed after the honey-harvest is past. When I tried the Syrian bees it was with the only hope that they would prove better than the bees which I already had; but when I found out that I could not coax the queens of this race to lay eggs rapidly except in the honey-harvest, I saw that it would be impossible for them to give a large yield of honey.

After doing my very best with them the second year, thinking that I might not have fully understood them at first, I was obliged to record only 50 lbs. of honey from the six colonies which I had, while I had to feed them a large amount to get them prepared for winter, taking combs of sealed honey from the Italian colonies to feed them with, while the same number of Italians gave over 500 lbs. of surplus during the same time and with the same management. With me the Syrian bees would increase but little till the honey-harvest arrived, when they would crowd every available cell with brood, which brood would use up nearly all the honey the few workers reared before could gather while the honey-harvest lasted. On the contrary, when the honey-harvest opened, the Italians would have a hive overflowing with bees, and every comb filled with brood; and this brood would gradually decrease till at the end of the harvest I had lots of honey and few mouths to feed. Here is an item which many bee-keepers seem to overlook in following their profession. Bees are of value only when they come in time to take advantage of the honey-flow; and whether through the race of bees or the carelessness of the apiarist we fail in this point, little profit, or none at all, is sure to be the result.

The same fault that I have spoken of in the above exists to a considerable extent in the Carniolan bees, or, at least, has done so in those I have had. While they can be brought up to rapid brood-rearing before the honey-harvest is upon us, which is different from the Syrians, yet they are determined to breed all through the honey-harvest, and to a large extent after it is past, so that, as a rule, unless they are looked after, many colonies are apt to be short of stores, to go into winter with, while the large amount of brood reared during the honey-harvest takes away quite a quantity of what we should receive as surplus. G. M. DOOLITTLE.

Borodino, N. Y., Oct. 4.

Friend D., there is another objection to the Syrians and Holy-Lands. I feel quite certain that the same quantities of bees of these races will not, as a rule, gather as much honey as the same number of Italians.

### A REVERSIBLE EXTRACTOR.

M'INTYRE'S PROPOSED MACHINE PUT TO ACTUAL TEST; AN INTERESTING EXPERIMENT.

I wish to say that I have been very much interested in what Mr. J. F. McIntyre has had to say about reversible extractors (see page 626). His article, published in the Nov. 1st GLEANINGS, 1889, was full of suggestions, and of great interest to us who use the extractor a great deal.

Last spring I made up my mind that I would make a reversible machine; and as I went about my work, for days I thought of little else. My line of thought finally took almost exactly the same course traced in Mr. McIntyre's article that was published on page 626. I made a wooden model, and experimented with that until it was time to begin extracting, when I sent to A. I. Root for a large can with a suitable gearing, and had a tinner make the baskets and inside frame. I made a two-frame machine, which takes a can 24 inches in diameter. The baskets are hung as illustrated in Mr. McIntyre's article, and are simply connected so that, when one is reversed, the other goes with it. A small catch holds the baskets when reversed, as in Fig. 2 (see Mr. McIntyre's article). When in the first position, as in Fig. 1, the heavy side of the basket rests against a projection from the cross-bar that holds the

basket up. It is almost automatic, and is reversed by stopping and turning the other way.

This extractor can certainly be reversed without stopping, but I have not been able to get a frame or baskets made stout enough to stand the strain. Mine accidentally reversed a couple of times while in motion, and I thought it would tear every thing to pieces. I do not believe it is possible to make the frame and baskets stout enough to reverse while going at full speed, without making the machine too expensive; and even if the machine would stand the strain, I am afraid the combs of honey would not, especially the tender new ones in hot weather.

I extracted about 3500 lbs. with my two-frame reversible this year, and I am very much pleased with it. I can do the work at least three times as fast as I can with a non-reversible extractor, and just as easily.

One advantage of this machine is, that the baskets are hung and revolve quite close to the center of the can; in fact, in my two-frame machine the baskets, when reversed are a little nearer the center of the can than they are in the Novice. In a four-frame machine they would have to be further out from the center, in order to give more room for the baskets to revolve in reversing, so as not to interfere with one another.

The baskets seem to revolve with a momentum like a fly-wheel—at least, more so than any I ever used before. There is nothing to catch the wind, besides the baskets and the flat cross-bars.

### AN IMPROVEMENT IN THE FOLDING TENT.

I have been compelled to use the bee-tent almost constantly this summer when handling the bees, though there were a few days during basswood bloom when I did not use it. Each season I renew the netting on my tents. With the best of care they will get torn, and once in a while the wind plays havoc with them. This year I used light muslin half way up from the bottom all around, and mosquito-bar only in the top part of the tent. I also sew a piece of light burlap, one foot wide, all around the bottom. If the ground is uneven it hangs down and prevents any bees from getting under. The muslin is an advantage in two ways: It is not so apt to catch on bushes, hives, etc., and get torn; and in the second place (and it is really the more important), the bees can not see what you are doing so well from the outside; and when you set a comb down on the ground the robbers can not see it at all. You who have used the tent much will appreciate this point. I have taken great comfort with mine while preparing my bees for winter during September, when the bees had nothing to do but to watch me.

### WINTER PACKING

above the frames in chaff hives, and also in single-walled hives, to be successful, should not be above six inches deep, of chaff or leaves lightly pressed down, and the hive must be provided with holes in the upper part to give ventilation. If sufficient ventilation is not provided for, the packing will gather dampness. If too much packing is used, or it is pressed in too solid, it will get wet. It is also essential that the hive-roof be perfectly water-tight. Some porous material, such as burlap, should be put next to the frames. If these conditions are complied with, the packing, bees, and combs will stay perfectly dry, and there will be no need ever to open out the hive to the sun, or to dry the packing, as I have seen recommended.

The above is the result of several seasons' experience, not with one only, but with dozens of hives. Our bees that were packed in chaff

hives came through last winter in better shape, and did better this summer, than those that were wintered in the cellar. J. F. MOORE.  
Rockaway, O., Oct. 1.

We are very glad, friend M., to get your testimony. We do not usually like to publish and illustrate any thing based entirely on theory; but McIntyre's reversible extractor is so unique in its plan that we were constrained to present it to our readers, first, that we might get some of our mechanical geniuses to test it; and, second, that we might ascertain whether the thing has ever been actually tried, and here you have tried it. In my recent visit among bee-keepers I found there was a very strong demand among the extractor men for an automatic reversing machine; and while the one you outline (McIntyre's) may be no better than the Stanley, in actual practice, theoretically it seems as if it were considerable of an improvement by dispensing with the chains and the flopping of the baskets against each other, which I am assured they will do with the best of management, at times. Extracting-tents, with cloth part way up, and netting the rest of the way, have long been in use. When our tents were all made of wire cloth instead of netting, we used to use cotton cloth part way up, on account of economy, it being so much cheaper than the wire cloth.

#### REPORT FROM GERMANY.

SOME VALUABLE HINTS FROM OUR GOOD  
FRIEND GRAVENHORST.

The report in GLEANINGS, Aug. 15, in regard to the crop of honey in America, induced me to send you a report. We had also a very mild winter, and our bees came through it without any loss, therefore in good condition. As the crop of honey the year before was a very good one, we need not feed our bees in the fall nor in the spring; they had more honey than they wanted. The spring was beautiful in the month of April, and our colonies prospered so that we could expect the swarming season in May. But this month was not as favorable as April, as we had only a few very good days when the bees could fly and gather honey and pollen. Nevertheless, my first swarm issued on the 21st of May. Most of the natural swarms issued on the first days, say from June 1 to 12, and at the same time I made my artificial swarms from every colony that I intended to increase. If one of my stocks casts off a natural swarm at the right time, I am glad of it; and if it does not swarm at the time I want it, then I swarm it artificially. Thus I make the increasing time a short one.

I have two kinds of colonies at the beginning of the season—those I intend to multiply, and such as are determined to gather only honey. The latter I make as strong as possible, to have them early in good working order. Swarming is prevented. If there is honey in the field, such a colony will gather it, and then I need not fear their swarming. If they have only a living from hand to mouth, I must be on the watch to prevent swarming. Before the bees build any queen-cells I take out the most of the brood-combs with capped brood, and insert combs without brood and honey, or only foundation.

To enable you to understand me better, I will say a word about my artificial swarms. I make only two kinds. First, I hunt out the queen of a colony just ready to swarm, and transfer her with some young bees, which I sweep from a few brood-combs of the same colony, into a new hive, furnished only with guide-combs in frames. The new colony is placed on the stand of the old ones, and this is removed to another place. Second, I select a strong colony which has many young bees, and sweep with a brush every bee from the combs and the walls of the hive into a new hive furnished with guide-combs. I take care to do this, not for the queen, as I know I shall get her in the new hive with the other bees. If the bees have gorged themselves full of honey by this operation, as bees always do when swarming, they will stay by their queen. If there is no honey in the hive, then I sprinkle the new swarm with a syrup made of sugar and water. I then place the new swarm on a new place somewhat distant from the old stand. I was the first bee-keeper who made such swarms in Germany. They are made in a few minutes, and many bee-keepers in Germany prefer them to all others. The combs, free from bees, I place in the old hive on the former stand. All the bees that were driven off by sweeping the combs will return to their old hive, and some to the new swarm. As in the old hive every minute will hatch many young bees, it will soon be all right, rear a young queen, and fill all combs that are not occupied by the brood with honey, if there is honey coming in. If such a hive, after having swept the bees from the combs, does not contain enough sealed brood-combs to fill it, then I take from a hive just having swarmed, or one that I have just artificially swarmed, as many brood-combs as are necessary to fill the hive, which will hold 16 frames, and give them, with all adhering bees, to this colony.

Now, only think of it! what a mass of bees will be in such a colony when the first young queen is hatched! There will soon issue a very strong swarm. When this swarm is hanging on a tree, or when I have it in the swarm-catcher, lying in the shade of a bush or tree, then I go to the hive it came from, and pull out every queen-cell. Toward evening I then return the swarm. Such a colony will not swarm afterward, although it will have probably more than one young queen. A few days after, there will be only one queen in the hive. As soon as this is the case, such a colony will work to the utmost capability, if there is honey in the blossoms. As long as I have built up such colonies, I have never had a lack of honey, so that, in the poorest season, I have never had to feed such colonies.

From the end of May till the 13th of September we had a hard time for our bees. We have had rain, and nothing but rain. Only a few hours in a week did we have fine sunny weather, and that was the only chance for our bees to do any thing. In the worst time we had, I did not have to feed a swarm. The most of our German bee-keepers were not so lucky as I, as they had more rain, hailstorms, and cold days, or their bees had no pasturage if the weather was favorable. My bees did very well in the month of April; some excellent days in June, July, and August, and so I secured a good honey crop from those colonies I have above described. I worked for extracted honey, as we have in Germany no market for comb honey. Rape, fruit-trees, poplars, gooseberries, acacia, linden, and buckwheat were the honey sources.

At the beginning of August I moved my bees to the heather, some miles distant from here, and there we had only four or five days, from the 15th till the 19th of August, very fine weath-

er. My strongest colonies I call double stocks. They have an average of 20 lbs. of surplus honey, and my other colonies have at least their winter stores. The only fault with the heather honey is, it can not be extracted, as it is too slimy, and adheres to the combs in such a way that the combs in the extractor will sooner break than the honey will fly out.

Some of the German bee-keepers have also had a honey crop, as I have; others only in the spring, from rape, etc.; others only in June and July. Upon the whole, the average yield per colony in Germany is in no way better or as good as in America.

C. J. H. GRAVENHORST.

Wilsnack, Sept. 13, 1890.

Friend G., we are greatly obliged to you for giving us this glimpse of bee culture in your own country. You do not manage things just as we do; but very likely you succeed best on your plan and with your surroundings, and no doubt you would get ahead of us if we were there with you; but if you were here, we are inclined to think you might somewhat modify your plan of working.

#### COMB-SPACING.

##### MORE GOOD TESTIMONY FOR 1 $\frac{1}{2}$ INCH.

In transferring I invariably find the foundation of combs laid 1 $\frac{1}{2}$  inches apart. Combs are built on this foundation to the thickness of  $\frac{3}{4}$  inch when the first batch of brood is capped. This brings the combs the proper distance apart for brood-rearing, while this part of the comb is used for that purpose; but as the foundation is laid out further down, the queen follows after the workers, laying while the comb is building, it seeming to be handiest to lay in an unfinished cell; but as the workers build about as fast as she can lay eggs—she preferring to lay in such cells—she does not return to the first cell as they hatch empty, to again deposit brood therein. Now, the bees, wishing to lay up a supply of stores to maintain the rising generation, occupy those recently vacated cells at the top of the comb, which, in order to economize space and perhaps heat also, they draw out until the intervening space is in the neighborhood of  $\frac{3}{4}$  inch. As the tops of the combs are now drawn too closely together for convenience in breeding, and the cells too deep for the queen to use them as easily as more shallow cells (I have seen eggs not more than two-thirds the distance to the bottom of those deep cells), they are thereafter used exclusively for stores. Then this would be natural spacing,  $\frac{3}{4}$  inch for stores and  $\frac{1}{2}$  inch for brood.

Some writers hint something about following the dictates of nature in this matter; but I object to such a thing; for, should we follow the dictations of Dame Nature, where would the frame hive be in a few short years? Why, we might yet be relishing a chunk of black, pollen-mixed honey out of a lion's carcass if man in his diversion from the laws of nature, in order to bring the world into subjection, had not given us the frame hive. I believe in getting just as far from nature in this matter as possible, which, in my experience, I find to be a  $\frac{3}{4}$ -inch space between  $\frac{3}{4}$  combs. This is a compromise between nature and convenience, giving room for breeding, with ample room for winter stores. I for one don't like to handle combs with a great "bay window" at the tops where they are drawn out to receive stores; and, so far as I have seen, this is the case where combs are spaced more than  $\frac{3}{4}$  inch. I experimented with

three colonies this season, with spacing less than  $\frac{3}{4}$ , being somewhere near  $\frac{1}{4}$  inch, with the following result:

Where any sink in the comb permitted of  $\frac{3}{4}$ -inch space, I found capped brood; at  $\frac{1}{4}$  inch, honey partly capped; less than  $\frac{1}{4}$  inch, nothing much but pollen and uncapped, but there was very little brood in the brood-nest; but, oh my! July 1 I took off from one hive what should have been 50 lbs. of surplus, when I found that one-third of the combs at the bottom were the nicest kind of thin brood-comb built just as I describe above. One inch may be the thickness of capped brood, but I am confident that  $\frac{3}{4}$  inch is an abundance of space. It would be a good thing if this matter were *perfectly understood*, in order that persons starting to make hives would know just how wide to make them.

#### OLD COMBS AND QUEEN-CELLS.

Did any of you or your readers ever try putting an old black comb in a hive to get eggs for queen-rearing? If not, I would advise you not to, unless it is for an experiment. Such cells will almost always be as black as the comb, with texture so fragile as to become flattened by heat that will have no effect on the common yellow cells. I have seen them "wilt" down flat before the bees had time to cap them. I have also seen them after they were capped become flattened on all sides, making them wedge-shaped. Such cells must necessarily produce deformed queens, as described by friend Doolittle in GLEANINGS of July 15. I lately took an old black comb, full of honey, from a hive where the frames had been spaced too close to admit of capping, and put it in a nucleus where it was capped over with material just as black as the comb. The bees seem to think it useless to use material for cappings or queen-cells in these cases better than the foundation they have to work on.

Carbondale, Kan., Aug. 3. J. H. MARKLEY.

Thanks for your testimony. If you will turn back to page 491 you will find that your conclusions agree almost exactly with those expressed by the writer. A space of  $\frac{3}{8}$  between capped brood and  $\frac{1}{2}$  between uncapped brood would make just exactly 1 $\frac{1}{2}$  spacing from center to center. See also pages 564, 639, and 673. Verily, the evidence for 1 $\frac{1}{2}$ -inch spacing is accumulating.

E. R.

#### WHAT SPOILS THE GRAPES?

##### DR. MILLER SAYS IT IS NOT THE BEES.

Previous to the summer of 1889 the bees each year worked on the grapes, and whole clusters were left nothing but skins and seeds. In every instance the first beginning on each grape was a slotted hole, perhaps an eighth of an inch long, in the form of a dumb-bell; that is, a round puncture at each end and a straight cut connecting the two. Last year and this year none of these slotted holes were seen, and the bees did no damage to the grapes. This year the bees were gathering nothing to speak of when the grapes were ripe; and if a basket of grapes were left standing, the bees would work their way all through it to lick up the juice where a grape happened to be broken; but after a basket had stood all day you would not say that they had been damaged by the bees. It seems, therefore, that the bees did not make the slotted holes; and without this first puncture the grapes remain unhurt. Now, what is it that makes the first attack? As it was lacking this year and last, is it not possible that we

could do something to make it lacking every year, if we knew the cause? Do others find the damage commencing with the slotted hole?

#### HOW MUCH WAX PER COLONY?

On page 701, friend Root, in speaking of Boardman's wax-extractor, you say: "It can not be that they cost very much, if it will pay a man to have one, who produces only 50 lbs. of wax a year." That sounds as if you thought 50 lbs. per year a small amount. To me it seems a large amount. Extracting, of course, produces more wax; but with comb honey I don't think I have ever averaged as much as two ounces per colony, and your remark raises the question whether there may not have been something wrong in my management. I know that, previous to this year, I have not saved wax as I should; but this year I have had one of Green's solar extractors, and I think nothing has gone to waste. The more I think of it, the more I think I shall lessen rather than increase two ounces per colony. If the good time comes when no brace-combs are built above top-bars, then I hardly see where I shall get any wax, except by melting up old combs or an occasional spoiled section. Will that give one ounce per colony? But I should say that it pays to buy a wax-extractor if you have only 25 lbs. of wax per year. I'm not sure but I should want one for only 10 lbs.

#### ISN'T THIS A FREE COUNTRY?

Friend A. L., I wish you'd look after Ernest a little. On page 702, under the head of "A Few Stray Bits," he talks just as if Elwood, Hetherington, and others had a right to certain territory, and that no one else had a right to go there, and apologizes at the last for even hinting that any one might think of doing such a thing. Now, I'm sure that Hetherington, with his 3000 colonies, has a better territory than I; and if I want to settle right down beside him, I'd like to know what's to hinder. I'm sure I could learn something from him, and it would be convenient to be so near that I could run in any evening and ask his advice. Please don't let Ernest talk any more about any one's "territory." Why, you see if the notion obtains that there is such a thing as a moral right to a given territory, some fool will get up and ask that laws be passed to make the moral right legal.

#### OBNOXIOUS SECTIONS.

On page 707 you ask, "Is it not true that some sections that have perhaps been tried one or two seasons became obnoxious to the bees?" I have had a few such, but it was generally where the foundation had been drawn out very little or not at all; and, being left on the hive the latter part of the season, the bees had glazed the entire surface with propolis. It is not because such sections have been used, but because they have *not* been used, that the bees reject them; and they are not fit to be used, even if the bees found no fault with them. We all know that bees prefer an old black comb to a bright new one; but one that has remained unused in the hive through late summer, when bees are in the varnish business, is quite another thing.

#### WORKERS LAYING IN QUEEN-CELLS.

Referring to Frank W. Lighton's case on page 709, I may say that I have had a number of cases in which I looked to see whether a young queen had yet commenced to lay; and I decided she was lost, by finding an egg in a queen-cell and no other eggs in the hive. Sometimes, at least, laying workers are satisfied to stop for a time, after getting an egg in a queen-cell.

Marengo, Ill., Oct. 4.

C. C. MILLER.

Fifty pounds of wax is worth, say, \$15.00. If this amount of wax should be wasted, if the man did not have a wax-extractor, he had better buy one, to be sure. But I was thinking that 30 or 40 lbs. of it would be saved any way. But even in that case, the saving of 10 lbs. of wax would pay for the extractor, providing it does not cost more than \$3.00. Come to think of it, I guess, doctor, you are right, that it will pay to have a wax-extractor where you produce 50 lbs. of wax in a year.—In regard to obnoxious sections, I do remember that these that the bees will not use are almost always well varnished, and perhaps some propolis, too, thrown in. I have also decided many times that a colony was queenless because I found a single egg in a rudimentary queen-cell. I judged this single egg to be the work of a fertile worker, and I think they often commence by laying one egg—perhaps no more—in the hive. After a few days, however, we are pretty sure to see more such eggs.

#### AUSTRALIA.

##### A BAD SEASON FOR BEES; EXCESSIVE RAINS.

It is with much regret that I write to tell you of another bad season. The drouth of 1888 and '89 has been followed by a year of excessive rain. In the last fourteen months we have had 108.76 inches; in fact, we have taken to counting our rainfall by feet lately. The average rainfall for the thirty previous years was 31.45. We have had so very few sunny days in the last three weeks that we have had but one day on which the bees could work the wattle (*mimosa*), which yields the earliest pollen in great profusion. It is all out in blossom now, but the bees have not been able to touch it yet.

The season opened splendidly, but we took only half a ton of honey in the early part of the year. The rest of the season was so wet that the bees could scarcely make a living, much less store any thing, and so we have had to feed them this winter to keep them alive. For miles around us, in fact, with few exceptions, all over the country, the bees in the bush and those in box hives have all died out. One neighbor had 72 colonies in box hives, and has not one now. Another, a few miles away, had 180. He had lost them before winter set in.

#### MOTHS AND ANTS.

They say the moths and ants have done it, and are much surprised that ours have escaped; but we know the poor bees were so poverty-stricken and disheartened they let their enemies take possession of their hives.

#### BROOD-FRAMES; METAL CORNERS NOT SATISFACTORY.

We have been very much interested in the controversy going on in GLEANINGS with regard to the wiring and sagging of frames. We wire ours exactly as you describe the process in the A B C, except that we use a shoe peg instead of a tack, and we have never known a properly wired all-wood frame, with tin upright, to sag. The metal corners do. The weight of the honey twists and bends the tins into all shapes, and we are more troubled with burr-combs on the metal-cornered frames than on any other. We have used the reversible frames only two seasons, and they were both poor ones; so it is

rather early to speak; but we have never had burr-combs built on them yet.

#### SPECIFIC GRAVITY OF AUSTRALIAN HONEY.

I think our honey must be heavier than yours, for I notice you always allow 12 lbs. to the gallon, while ours weighs from 15 to 16, and, in very dry seasons, as much as 17. A four-gallon kerosene-can weighs, net, from 62 to 66 lbs., never less than 62 lbs., and seldom more than 66. Our average is 64 lbs. of extracted honey to the can. We usually find that our narrow frames hold about 10 lbs., and our section boxes 17 or 18 oz. when well filled. When using broad frames for sections we draw the top and bottom bar together with a piece of ordinary No. 30 wire. This prevents sagging, and most effectually prevents the introduction of propolis. I must say, I prefer the wide frames to supers, as the sections look so much neater and cleaner when taken out.

#### THE IGNOTUM IN AUSTRALIA.

I must thank you very much for the Ignotum tomato seeds you were so very generous as to send me. I was able to distribute them far and wide. All are unanimous in declaring them to be the most prolific and delicate-tasting of tomatoes. At the beginning of the season we were much disappointed, as they rotted in the center before they had time to ripen; but they soon grew out of that, and the vines bore for months, right into the winter. Some six vines, planted on drained and trenched land, produced bushels of splendid fruit. I don't think one seed failed to germinate. The curator of our state nursery, to whom I sent some, said he had never seen finer seed. He was sure that every one he had planted had grown.

S. A. BRADLEY.

Denham Court Parsonage, N. S. W., Aug. 4.

Friend B., when you speak of 15 or 16 lbs. of honey per gallon, one is almost forced to believe that your pounds are smaller than ours, or else your gallons are larger. I judge it must be the latter, for the kerosene-cans you speak of hold the same number of pounds of honey with us; viz., 60 lbs., or two or three pounds over; but instead of calling them four-gallon, we call them *five-gallon* cans. Many thanks for your good report of the Ignotum tomato.

#### NECTAR FROM RED OAK.

PROF. COOK TELLS US ABOUT WORMS, BUMBLE-BEES, SNAKES, INJURIOUS INSECTS, ETC.

I send you by to-day's mail a little box of oak twigs on which the bees are working with great diligence. Their whole business seems to be with the little buds—those I have tied thread around. I watched one bud five minutes, and in that time seven bees visited it. The whole seven seemed to be equally well satisfied with the result of their visits. It may be an old thing to you, but I had never observed it before.

Farm Ridge, Ill., Sept. 27. E. B. CAPEN.

We referred the above to Prof. Cook, who replies:

The oak which Mr. Capen finds giving off nectar is probably red oak, *Quercus rubra*. I find in the enlarged buds—which are secreting the nectar, the larva of a gall. It takes the fruit-buds of the oak two years to form acorns. These buds would have fully developed next year, and acorns would have resulted, had they not been unfortunate. A small four-winged fly—smooth, and somewhat wasp-like in form,

pierced the buds and laid an egg in each one. This so irritated the tissue that it grew very rapidly, and a gall, or enlarged growth, resulted. In these galls the larval gall-fly may now be seen. The fact that these galls secrete nectar is not new. I think we have had such reports from Minnesota or Nebraska, and from Arkansas. The cause and purpose of this nectar is not easy to divine. I should very much like more of these galls, and a sample of the honey from the nectar.

It is very interesting to know that each gall-insect produces just the same kind of gall. Why this is so, no one can tell. That all galls of the same insect should be the same size, color, and form, as much so as fruit of the same tree, passes understanding.

It is also interesting, that bees get nectar from so many and such diverse sources; from flower-glands, from extra floral plant-glands; from sap, from plant-lice, bark-lice, from fungi, and from galls. Surely the wind is not only tempered to the shorn lamb, but equal love and care is shown in the feeding of insects and other animals.

#### THE IMPERIAL MOTH.

Mr. Wm. S. Adams, Guys, Md., asks about an immense larva which feeds upon the apple. This is our largest silk caterpillar. It is *Eacles imperialis*. I did not know it worked on apple. It usually works on sycamore. It has great horn-like tubercles. Mr. Adams says the person who caught it said it stretched out to a foot in length. No doubt this was an unconscious stretch of the truth. The caterpillar might possibly stretch to six inches, but even that is too large for the average. Yet, to see one of these terrible-looking larvæ, with its bristling horns, might easily lead to exaggerated statements. Yet this threatening insect is as harmless as a kitten. All its swing and waving of horns is simply for effect. It is well worth while to rear the moth, for it is one of the finest and largest of our American insects. It is a lively, beautiful yellow, dotted with black. It always attracts unusual attention, and causes words of surprise and admiration as I show it to visitors. When I show the larva, people generally say, "Horrid!" They all pronounce against the child, but praise the parent.

#### BUMBLE-BEES — BOMBUS PRATACOLA.

Mrs. S. C. Brooks, Spring Creek, Pa., sends for name, through GLEANINGS, some very beautiful bumble-bees (*Bombus pratocola*). They are about the size of a drone-bee, and, like all bumble-bees, very hairy. These special ones are yellow, black, and orange; the head, a transverse band on thorax, and the tip of the abdomen, are black, and a central broad band across the abdomen, rich orange brown, while the remainder is a bright yellow, the common color of bumble-bees. No wonder, so much are they with the beautiful yellow flowers. We know we grow to resemble in spirit and temper, if not in looks, those very dear to us, especially if much with them. Why may not the bumble-bees, then, grow like the bloom they visit, and which is bread for them? Mrs. Brooks is quite correct. These do not go into the hives. It would be a sorry undertaking for them to attempt it.

#### THE BLOW-SNAKE.

Mr. S. C. Corwin, Sara Sota, Fla., very kindly sent me two snakes some time since for moccasins. They proved to be the common blow-snake, or blowing adder—not poisonous at all. We handled them and stroked their heads as freely as though they were young puppies. True, they flatten their heads and necks in an alarming manner, which so compresses their

trachea, or windpipe, that they fairly gasp; but they can only frighten. They are utterly powerless to do harm. But friend Corwin was no man to give up, and we have now received a genuine moccasin—upland (not water) moccasin—from him. Though not very long it is prodigious in size, as large as my arm, and as vicious as big. His great fangs would fairly fly out as he would strike at us. As this is our first moccasin, we prize him. I now have fine specimens of all our venomous snakes. I tell you, friend Root, I am going to give the readers of GLEANINGS, when I have time, a snake-story that will raise their hats. I have the data. Just think! I have had live massasaugas, rattlesnakes, copperheads, and moccasins. We have visited with them for hours, and I guess I have about all their secrets. It is a charming story—just wait.

#### WHEAT JOINT-WORM.

The insect that is destroying the wheat for J. L. Bell of others, of West Middletown, Pa., is the joint-worm, *Irosoma hardyi*. Harr. A small black four-winged fly lays its eggs, often several, just above the joints of the straw. These absorb the juice, and cause the straw to harden and become deformed, sometimes a little enlarged. These so injure the stem that little or no grain is produced. Barley suffers, as well as wheat. In the fall, examination will reveal the larvæ in the straw. They pupate in the cells in the hard straw, and come out early the next summer. If Mr. Bell will put some of these straws in a bottle he will obtain some of the flies in the winter or spring, if kept in a warm room; later, if kept out in the cold. In thrashing, the joints often break off, as they are so hard, and come out with the grain. These hard pieces of straw, of course, contain the enemy. A good remedy, as these work in the lower joints, is to cut the grain high and burn the stubble; also, to collect the straws from the grain and burn them. Still better, we can usually rely on parasites to destroy these destroyers. There are little holes in the straws sent. These are openings where little parasites, which have destroyed the joint-worms, have come out. These holes, as also the experience all over the country, make it probable that the worst of the trouble is over. Very likely no signs of the enemy will appear next year; or, if so, the damage will be far less.

#### DISEASED GRAPEVINES.

Mr. C. Gere, East Springfield, Pa., sends me two pieces of grapevine which are very much deformed by a gall-like excrescence. It often kills the vines the first year, though some vines sprout below the disease and live. I do not know this disease. I do not find insects, and surmise that they have had nothing to do with it. It appears like the fungoid malady of the plum—black-knot—though this is green or gray. I presume it is fungoid in nature. If so, the remedy is, I presume, the same as for black-knot in plum—cut and burn the stems as soon as the disease appears. I have handed the specimens to Prof. L. R. Taft, our horticulturist; and if he gives me any additional light I will report. I should like five or six more of the stems. The knot is two or three inches long, and doubles the size of the stem, so it is very noticeable. One can readily believe that it would kill the vine.

#### COLORADO DATAMES.

Miss Ellen Stewart, Altona, Colorado, writes: "I send you a new and strange insect, the second of the kind I ever saw. Will you kindly describe it in GLEANINGS?"

This is another species of datames. I have described and illustrated one in my Bee-Keep-

er's Guide, 15th 1000, p. 432, Fig. 221. This one is brown, and smaller than the ones from California. The first one from California, the late Mr. Enos, of Napa, found killing his bees. This summer another was sent me from Southern California, and the same complaint—killing bees—was preferred. Has Miss Stewart noticed a like habit of this Colorado species? As will be seen by referring to the figure in my book, these animals are most peculiar in their jaws, which can work laterally, while each jaw has vertical jaws which remind us much of the pincers on the first legs of a lobster.

This animal belongs to the spider sub-class—*Arachnoidea*; to the scorpion order, which includes the true, false, and whip scorpions, and our grandfatherly gray-beards.

The family is *Solpugidae*, which is represented in the United States by only a few species. The most common one is *Datames pallipes*, Say. This is said to be common in Colorado, under "buffalo chips," and also to live in houses, where it feeds on bed-bugs. If this one had any show of a black dorsal line, I should think this Say's species. This one is brown, just the color of a bed-bug. The legs are lighter, quite yellowish. The tips of the palps, or jaws, are black. It is about one inch long. I am glad of this specimen, as it gives us two species of these remarkable animals in our collections. Who will send the next one?

#### SWALLOW-TAILED BUTTERFLIES.

The caterpillar sent by Luke Snow, of Lamar, Barton Co., Mo., and which feeds on prickly ash, is common all through the United States. It changes into a swallow-tailed butterfly, *Papilio chresphontes*, one of our largest species. It is black and yellow, the yellow in the form of a triangle. All of the papilio larvæ have forked scent-organs near the head, on the back. When disturbed they throw these out, which produces a rank odor. This must be offensive to both man and bird. The butterfly is one of the most showy of our American species, of which we have several. All are black and yellow, or black and blue. All have tail-like projections to the hind wings. A good time to catch the butterflies is in the early spring, on the lilacs. A better way is to feed the larvæ and rear the butterflies; then they will surely be bright and perfect.

#### GOLDENRODS.

The two species of goldenrod sent by Mr. C. Gere are *Solidago lanceolata* and *Solidago Canadensis*. These are common species through the Northern States. I am not surprised to hear from Mr. Gere to the effect that both are excellent honey-plants. This fall all goldenrods have seemed to yield honey. I have found the goldenrods merry with bees upon every visit made to the plants this autumn. I should say that goldenrods are among our very best autumn honey-plants.

Hon. D. C. Leach, Walton, Mich., on the pine plains, says the bees are getting much honey from goldenrod. He finds they work steadily on *Solidago bicolor* and *Solidago nemoralis*, but hardly at all on *S. Canadensis*. This is rather strange. Last week a gentleman wrote from Pennsylvania, and said they were working finely on *S. Canadensis*. The same is true here. They are still working on all our species here. The hives are well filled, and we shall get several hundred pounds of surplus. The honey is very fine. A. J. Cook.

Agricultural College, Mich., Sept. 25.

Friend Cook, it does me lots of good to hear you tell about handling these great horrid-looking worms and fearful-looking snakes as if they were kittens and puppies. In view of the

superstition in regard to curing diseases, and the weather, etc., I felt sure there was also much superstition in regard to animals. I have been told that ordinary striped snakes are harmless. Perhaps you have said so; but I find it almost impossible to prevent everybody around here from killing them as soon as they see them. I try to cultivate their acquaintance whenever I find them; and I confess that I begin to regard them, as you say, like kittens and puppies; and when they are doing great service in destroying bugs and insects, it certainly does seem too bad that we should be so blind to our best interests.

### SELLING ON COMMISSION.

SELLING HONEY FOR LESS THAN THE PRICE  
QUOTED TO PRODUCERS.

*Friend Root:*—I have been very much interested in the articles on shipping and selling honey, by the commission men, and I am sure that those who sell in that way can profit by studying said articles closely. Now, I know there is a large portion of the people who believe that all or nearly all commission men are up to tricks, and make much of their money by misrepresentation. While I do not belong to this class of people, I have one fault to find with all commission men that I have dealt with; that is, quoting a certain price on honey, and then, when they receive it, selling at a less price, although the market quotations showed no decline in prices at the time. To illustrate:

We write to a commission man in Kansas City or St. Louis for quotations, and in reply we receive a very polite letter, stating that they have special facilities for handling honey, and can handle ours to advantage, etc., and quoting a fair price *to-day*. We ship the honey, and receive a card or letter stating that it was received all right; and after waiting a month or two we write to see what has been done with our honey, and find it has been sold for a cent or two less per pound than formerly quoted. If not taking too much space, allow me to relate one or two such transactions.

I might here give some of the correspondence, to show that I am unbiased in my opinions, but that would only be taking time and space for only a small purpose. Last year we wrote to Kansas City for prices, and were quoted 16 cts. for nice comb, and were advised to ship immediately. We did so, and soon received a notice that the honey was received in good order, and was very nice. Soon we were advised of a decline, and our man thought best to hold it for better prices; and finally, after four or six weeks, our honey was sold for 14 cts., which netted us something over 11 cts. Had we known it, we could have got 15 cts. net for this same honey, without any great effort to dispose of it.

Last February we shipped 3 cases, 6 60-lb. cans of extracted honey, to Omaha, Neb. The party there had quoted it at 9 cts. per lb. After two months they had sold one 60-lb. can at 9 cts., and allowed us 7 cts. for the other 300 lbs., and charged us only ten per cent commission. That is, they did not report the 300 lbs. sold, but I presume they considered it sold to themselves at 7 cts., and charged us only ten per cent for making the sale.

Now, friends, I try to have charity for all men, and especially for those with whom I have dealings; neither am I much given to complaining and fault-finding; yet I should like to know why it is that honey *always* declines in price

just *after* we ship, for we have invariably received a less price for our honey than that first quoted. This has been the case so often that we have about abandoned the practice of shipping on commission.

And now, brother bee-keepers, are not we somewhat to blame for crowding our honey into the great market centers, such as Kansas City, St. Louis, Chicago, Philadelphia, New York, etc.; thus running the supply beyond the demand, and cutting down the prices in these places? Then when we go to a small town and try to sell honey at a fair price the merchant will show you a St. Louis price current, quoting Southern honey in barrels at  $5\frac{1}{2}$  to 6 cts., and sometimes even lower. I tell you, you have to talk like a good fellow if you make a sale at a fair price. Yet with all this, the writer sold, in small towns along the Mo. Pacific R. R., about a thousand pounds of extracted honey at 10 cts. per lb., in five-gallon cans. The can went free, and in one-gallon cans we charged  $12\frac{1}{2}$  cts. for the honey, can free.

We also could have sold more comb honey than we could supply, at 15 cts. net, and all of this was sold where I presume there was not 100 lbs. sold before I went there. We intend selling all or nearly all our honey this way in the future. Why can not you do the same? Keep more of the honey out of the great market centers, and thus keep it up to a living price.

Bluffton, Mo., Aug. 13.

S. E. MILLER.

Friend M., I know there is a good deal of encouraging people to expect something they do not realize, in getting trade in all departments of business; but I am sure it is not a profitable way. You will notice that I strike upon the same subject in my present Home paper; but we should be careful about being too general in our charges. There are commission men in Cleveland who sold honey at a larger price than they encouraged us to expect, though this is the exception and not the rule. When you find a commission man who has once done this, hold fast to him, for you have discovered a treasure.

### NYSEWANDER'S HONEY-EXHIBIT.

#### AN ATTRACTIVE DISPLAY.

I herewith give you a glimpse of our honey-exhibit, made at the Iowa State Fair. Notwithstanding the agricultural hall is large and commodious, the room always seems limited, and the exhibitor is sometimes required to make the room in height what it is lacking in length. This is true with the exhibit shown. It is about 14 feet in height and 25 feet in length, comprising extracted and comb honey, supplies, etc. The amount of honey represented is about 4000 lbs. We were required to place most of the extracted honey so far above the heads of the people that shelving had to be largely dispensed with to show up the glass jars to the best advantage. The larger portion of these were therefore strung on wire. While the row of jars did not appear quite as regular as if shelving had been used, there was nothing to obstruct the light at the back or the view in front, and this more than made up for the slightly irregular appearance, and the clear jars of linn honey showed up very beautifully.

By the way, the whole exhibit was purely of linn honey. The clover-fields that were early so promising did little more in this vicinity than to fill the hives when they suddenly with-

**JOS. NYSEWANDER,**  
 Manufacturer & Apiary Supplies.  
 DES MOINES, I.A.

THE ASSOCIATED  
 BEEKEEPERS  
 OF THE IOWA STATE FAIR  
 DES MOINES, IOWA

Barrel of Omb  
 Dove Tailed  
 Hives  
 Sold in 1890

We are dealing in  
 the best  
 Root's Goods  
 At Root's Prices

The Western  
 Beekeepers  
 One Year for only 11 cts  
 It is the Standard Book  
 For the Honey Bee  
 Taken from the  
 American Bee Journal

J. NYSEWANDER'S HONEY-EXHIBIT AT THE IOWA STATE FAIR.

ered under the influence of hot winds and dry weather.

There were about 2800 lbs. of comb honey. It was exceptionally white and fine, having been made in a short space of time, and taken off from the hives as soon as finished. You will notice that it is mostly in 24-lb. shipping-cases, the rest being 12-lb. cases. While these do not show the honey quite as well as the 48-lb. case, when it comes to shipping and marketing they are much safer, and more popular with the trade.

The supplies were arranged in convenient view, and consisted of every thing used by the bee-keeper, though the picture doesn't fully show this portion of the exhibit. However, you will notice, beginning at the left-hand side, a few smokers with numerous other small articles, which were placed on the top of a pyramid of 60-lb. cans of extracted honey, only the top corner of which is shown. Following along are the different sizes and styles of the Novice honey and wax extractors. Back of these may be seen smokers, foundation, drone-traps, and perforated zinc honey-boards. To the right of the central card is a pyramid of choice beeswax, made of small cakes. In this shape we find it to be a very marketable article. The cakes are of such a size as to retail at 5 cents, and we wholesale quite a good deal of it in this form to the stores. Next may be seen sprigs of a bunch of Japanese buckwheat in bloom, and the best 20 lbs. of extracted honey. The lid of the solar wax-extractor, which is thrown back, is noticeable, and the rest of the supplies in view are, a copy of the A B C book, foundation-mill, and sections, which are easily recognized.

JOS. NYSEWANDER.

Des Moines, Ia., Sept. 15, 1890.

Friend N., your idea of hanging honey-pails and tumblers on a wire is quite an item; and if you are the first one to inaugurate it, we owe you a vote of thanks. We congratulate you on the neat placards explaining and advertising the different items. Very likely the whole display will give many helpful hints to others in arranging like exhibits.

#### FOUL BROOD IN CANADA.

AN EYE-WITNESS RECOUNTS THE EFFECTIVE WORK DONE BY THE FOUL-BROOD INSPECTOR.

Any one who has spent a few hours with Mr. McEvoy in the discharge of his duties could hardly fail to be convinced of the necessity, in the interest of bee-keeping, for the surveillance of foul brood. I had long been satisfied in my own mind that protection ought to be given to this industry, of such a nature as to insure the man who embarks in it to make a livelihood, that his neighbor who has nothing at stake, comparatively, would not, through ignorance or otherwise, cultivate foul brood beside him, and thus jeopardize his existence as a bee-keeper. That impression, which has been deepening on my mind for years back, was immensely emphasized by the result of yesterday's ride; and, Mr. Editor, you may put your own comment underneath whatever way you please; but when I say that a large class of people—among them the non-reader, and the one-or-two-hives-for-honey-for-own-use folks—should be strongly discouraged, I think I say it advisedly, and that the following will bear me out.

After a drive of a couple of hours we arrived at a certain comfortable-looking village situated picturesquely amidst the hills, and there called upon the principal bee-keeper, the resi-

dent minister of the German Baptist church. We found him a man of intelligence, and particularly well up in matters pertaining to this industry; a student of the German, English, and American authors. He has for years used a shallow hive with a hanging frame, the same dimensions as the Heddon frame, and got the idea from accounts by German authors of a similar hive used in Germany. In fact, he says that, when Mr. Heddon gave his invention to the world, he wrote, informing him that he had already, the previous season, been using the same hive, only with a hanging frame.

When asked about foul brood, he said that there had been some in his yard, caught from neighbors, but that it was now away; that he cured it by shaking the bees on starters, and replacing these by others at the end of three days, when he fed the bees, medicating the feed with salicylic acid and borax. No disease was found in his yard, and the place was the very perfection of order and neatness.

From there a visit was made to a blacksmith neighbor of his, scarcely 200 yards away, where only two hives were found, he having sent a number some miles off to a son's place. One of these two was very badly diseased, and the other somewhat less so. Another call in the village was made on a party owning one hive, and it was found to be on its very last legs with the disease.

As one of these two parties was reported to have sold many cases of foul brood they both were requested to have a bonfire at night. Mr. McEvoy then went across the street and asked the minister if he would go over and see that these men did what they were ordered to do. The minister very willingly promised to do so. He was very much alarmed when told that it was so close to him; and, with feelings of the deepest regret he said, "Oh dear! oh dear! after all my trouble in melting combs, and doing all I could to keep it out of my apiary—just see the risks I have to run with my neighbors who won't do any thing." The inspector replied, saying he would protect him, and make them clean out the disease.

Leaving the village we went to blacksmith No. 2, a couple of miles away, to whom blacksmith No. 1 had sold bees some time ago; and in the second hive looked at, the disease was found in a very malignant form and degree. This man has somewhere about 30 hives. The conversation which took place here was something like this:

"Say, mister, would you come up here?" (spoken from the upper level door behind the smithy).

"What for?"

"I want to see your bees." Up he comes.

"I'm the government inspector, appointed to look after bees and see that there is no foul brood among them."

"Guess you won't find any here."

Guesswork in this business is rather suspicious and suggestive.

"Oh, no! I don't expect to. Well, we'll go and see, any way. Do you take any journal?"

"No."

He was shown the foul brood, and warned and instructed about it. He was then advised to ask the assistance of our minister friend to help him get rid of the trouble.

Leaving here we passed down the road a mile to a farmhouse where was a small collection of hives of the ancient Mitchell and more modern Jones varieties. Some were inhabited, but more without tenants. No foul brood appeared here; but in one hive large pieces had been cut out of two of the back combs, and the next frame showed a few dead larvae. The owner being away in the fields at a distance plowing,

time did not permit of interrogating him regarding the mutilated combs; but as a precautionary measure, word was left advising him to "take up" the hive this fall for its honey.

Further along a call was made where half a dozen Mitchell hives were sitting on a sloping lawn with a "list" to south that was calculated to call to mind the leaning tower of Pisa. The guid-wife took us for tramps, or agents, and, in absence of the guid-man in the fields, assumed the defensive.

"I don't let any one interfere with my bees. I run them myself," says she.

Mr. McEvoy indulged in a smile, passing the remark aside that this was the second time he had been refused liberty to see bees in the province. Our good lady friend became mollified when she was informed that no less a person had called upon her than a government official, and then came down and assisted in the somewhat difficult operation of dissecting one of the hives, apologizing all the time for her apparent discourtesy. No disease was found here.

The shades of evening were about to close over the beautiful landscape, and we headed off for home, having found three yards, out of six visited, badly infested with the vile disease.

Had time permitted following the other bees of blacksmith No. 1 to where they had been located, no doubt the trouble would have been found there also. We heard of a case where a party having foul brood extracted his honey and sold it in the grocery where another bought it and fed it to his bees, giving them the disease. One would naturally conclude, also, that foul-broody bees have been passing from one to another around here. I had the unfortunate experience myself, some years ago, of buying these, and know how exceedingly disappointing it may be, especially if no reparation is made, as in my case, and now I appreciate the Foul-Brood Act.

Our minister friend told us of having set up his son in the business, a year or so ago; and how, after he had just started, he got foul brood from his neighbor which cost him \$400 before he had it eradicated.

Galt, Ont., Can., Sept. 4. R. W. McDONNELL.

Well done, friend M. You certainly did a good thing when you started out on that visit, and a better thing when you reported it to GLEANINGS. Now, if we don't soon have like inspectors looking over the whole United States, and, in fact, the rest of the world, and doing just such effective service as you describe, it will certainly reflect on the bee-keepers of the world. Let us go and do likewise.

#### FOUL BROOD IN AN APIARY OF 125 COLONIES.

THE DISEASE COMPLETELY CURED BY THE PLAN GIVEN IN THE A B C. BESIDES 7 TONS OF HONEY AND AN INCREASE OF 65.

*Friend Root:*—You may remember that, in March last, I wrote you in regard to a remedy for foul brood, and you recommended the last issue of the A B C, which I purchased. I have been working an apiary of 125 stands, all of which had foul brood. I commenced transferring them about March 20, using the same hives and frames, but first boiling them. After putting about 12 stands in clean hives, on 4-inch strips of foundation, and confining them 24 hours without food, and finding they had done nothing, I gave them  $\frac{1}{2}$  pint each of honey taken from the diseased bees, but boiled, when they

commenced to work. The strongest received no more, but the weaker ones were fed a few days. The remainder of them I treated less carefully, as I saw they would not work till the honey taken with them was digested. I transferred all I could each day, brushing all the bees from the combs into the new hives, and placing the combs into boxes for the purpose, furnished with sliding covers, and, when full, wheeled into the honey-house. At night, all that had been transferred during the day were moved about 50 yards, and given their liberty. As often as the combs and hives became too numerous, the frames and hives were boiled, and the combs made into wax.

After the bees were all transferred I used Muth's remedy, as given in your issue of A B C, 1878; viz.,  $\frac{1}{4}$  ounce each of salicylic acid and borax, dissolved in 1 pt. of pure soft water, and sprayed the combs. I used this remedy once on each colony, and have effected a complete cure.

About one year ago I transferred a few stands of bees which had foul brood, without the use of any medicine, and they are healthy to-day. If I treat any more bees having foul brood I shall use Muth's remedy, as I think it is a benefit to them. I have increased the above apiary to 190 stands, and taken 7 tons of extracted honey.

HENRY OTTO.

San Jacinto, Cal., Sept. 30.

#### THE INTERNATIONAL BEE-KEEPERS' ASSOCIATION.

WHERE SHALL WE HOLD THE ONE AFTER THE MEETING AT KEOKUK?

The following is the copy of a letter which will explain itself. That I might go ahead understandingly I sent copies of the same to the ex-presidents and other officers of the American Bee Association. The letter is as follows:

At the bee-keepers' convention at Plum Bay, N. Y., we had a pleasant time. The entire shores of the most beautiful Lake George were covered with historic reminiscences. Mountains rise abruptly out of the water, and the scenery round about is indescribably beautiful. The water is clear—so clear, indeed, that objects can be seen sometimes forty feet beneath the surface. At the point (Plum Bay) where the bee-keepers camped, there is said to be a man-of-war sunk. It lies in a depth of forty feet of water, and yet I am assured that, on favorable days, its hulk can be quite distinctly seen.

At one end of the lake is Fort William Henry Hotel, on the spot of the old fort of that name, and, at the other end, Ticonderoga. Near by are two or three celebrated battlefields.

I have taken pains to mention some of the natural attractions of Lake George, and now, then, to my point:

Two first-class bee-keepers, Messrs. Andrews and Lockhart, own several cottages and a considerable portion of the shore bordering on the southeast. They are very anxious that this camp of bee-keepers should be an annual affair, as it is situated between the New England bee-keepers and the New York State bee-keepers, and is easy of access to some of the most extensive bee-men in the world.

Still further, while we were in camp this time, we were discussing as to whether this might not be a very desirable location for the International Bee-Association, to be held the year after the meeting at Keokuk, Iowa; namely, during the winter of 1891-'92. Along with the natural attractions, it is right in the

center (if we except California) of the most extensive bee-country in the world. Not many miles away are bee-keepers owning their 300 and 400 colonies. Then there are Messrs. Elwood, Hetherington, Hoffman, Tunnicliff, Larabee, Martin, Manum, Crane, L. C. Root, Knickerbocker, Lockhart, and Andrews, and a good many others that are extensive bee-keepers. As it is one of the policies of the International Association to migrate, I merely suggest that it might be well to consider the advisability of holding our next International on the borderline of the Northeastern States; namely, at some point on Lake George. Mr. Lockhart offers the use of his cottages; and if anybody knows how to entertain bee-keepers, he does. His cottages are right on the shore of a most beautiful bay.

Now, whether we meet at Lake George or not, it seems to me that it is expedient for us to begin to consider the location of the International in 1891-'92, so that at the next meeting at Keokuk the members may be prepared to vote intelligently and understandingly. I told the bee-keepers assembled that I would write to some of the ex-presidents of the association and other officers, and learn what they thought of it; and if they all agree that it might be advisable to bring the matter up in print, that Mr. Newman, Mr. Hutchinson, and ourselves, would properly present the matter in our respective papers. I send a copy of this letter to Drs. Mason and Miller, Hutchinson, C. P. Dadant, R. L. Taylor, Prof. Cook, and perhaps one or two others.

After presenting the above to the readers of the *American Bee Journal*, the editor says:

We are very much in favor of holding the next meeting of the International Association at Plum Bay, N. Y., if it can be held during warm weather, and will do all we can to get it located there.

The following are replies received from the other representative bee-keepers:

As regards the place of holding the International meeting of bee-keepers in the winter of 1891-'92, I haven't much choice, except to have it as near my location as possible. Selfish, did you say? All right, then; let it be held where its best interests may be subserved. I love to attend the meetings; but, being poor, I can't afford to go very far, and I fear I shall not be able to go to Keokuk, but I do want to so badly! I am sure I don't know whether it is or is not advisable to meet at Lake George. You give but one good reason for so doing, and that is the proximity of so many large bee-keepers. The beautiful scenery, bay, historic spots, etc., cut no figure at a bee-convention, especially in the winter, when the ground may be covered with from a few inches to a few feet of snow, and the clear waters of the bay and lake with the same of ice. If held in October it would be different. Some town or city that is easy of access by rail seems to me to be the most desirable location. I had been thinking that perhaps Buffalo or Rochester would be a good place for the next meeting after Keokuk, for the reason that either location is readily reached from the East and West, and by the Canadians. Our meetings have not been selfish as regards places of meeting, and have done what was thought to be for the best interests of the society.

Auburndale, Ohio, Sept. 22. A. B. MASON.

I for one am quite willing that the next meeting of the I. A. B. A. should take place at some such point as you describe. It is evidently best for all that the I. A. B. A. should not meet twice in the same place for a number of years,

and it is time that the N. E. bee-keepers had their turn; so you may count on my support, and I must say that I am very glad that you have thought best to discuss this question before the Keokuk meeting. This point having been raised, there will be less disappointment from parties who might want the meeting in some other direction. There is only one question that I wish to raise. If this meeting of 1891-'92 is located there, would it not be best to hold it early in the fall, so that our bee-men may have a chance to enjoy the scenery by a few rambles?

C. P. DADANT.

Hamilton, Ill., Sept. 19.

I lectured to the bee-keepers in N. E. N. Y. several times last winter, and I know they are wide awake. I should think your plan a wise one. I believe a meeting held on Lake George in August would be excellent. Why not? Bee-keepers are not very busy in August.

Agricultural College, Mich. A. J. COOK.

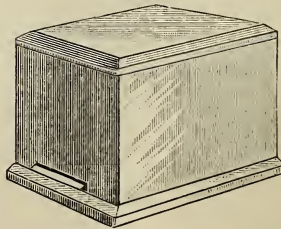
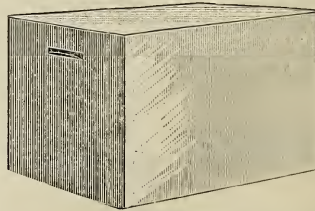
If we decide to hold the meeting at Lake George, it should, of course, be held early in the fall, say immediately following the general harvest of farmers and bee-keepers, and before the bees are put into winter quarters. Perhaps the first of October would be a good time. At any rate, we can talk that over at the convention; and if it should be decided to hold the meeting at Albany it might be advisable to meet later in the fall, or along in the winter. I should not think of holding it at Buffalo, because we have already had one meeting recently in that vicinity; namely, at Brantford; and as the policy of the International is migratory, it ought to go as far as Lake George, or the line of the New England States.

E. R.

#### RAMBLE NO. 30.

##### IN STEUBEN COUNTY.

Mr. Sprague, Mr. Bowen, and the Rambler made a friendly call upon the great bee-man of Steuben Co., Mr. Wm. B. Stephens, of Stephens Mills. At the time of our call, Mr. S. had 200 colonies, located in three apiaries. We found



CHAFF HIVE USED BY MR. W. B. STEPHENS.

him and his son ready to talk bees, and we had quite a convention. His apiaries are run prin-

cipally for comb honey. In the apiaries at and near home, the honey resources are limited to clover and buckwheat, while his apiary over in Allegany Co. has the advantage of basswood. Mr. Stephens and Sprague both prefer black bees. Much buckwheat is sown in Steuben Co., and on that account the blacks are preferred. The L. hive is used to a large extent, but we saw quite a sprinkling of Heddon hives. We



were shown a very cheap chaff hive taking an L. frame. It had double walls, packed, and in winter a cushion is laid over the frames and a light case slipped over all. Mr. S. was so well pleased with the working of these hives that several were under construction. In the honey-house we saw a Novice extractor and an old-style Peabody, which is strong evidence that Mr. S. has been long in the business. A charming point about Mr. Stephens' location is, that his entire honey-crop is sold in the home market.

Hornellsville, located only a few miles distant, is a smart and rapidly growing town of about 10,000 population. The principal grocers are supplied regularly; and, as long as he can supply the demand, California and other foreign honey does not find lodgment here, but is sent on to other cities. Extracted honey was slow to sell at first; but by putting a good quality upon the market he finds the sale increasing. His good home market will induce him to increase his apiaries, and extend the business. Having two energetic sons to help, he is well equipped for the extension.

Cellar wintering is practiced to a considerable extent, though outdoor wintering would be preferred, and is resorted to in out-apiaries.

We discussed the many qualities and peculiarities of extracted honey, and found our friends believing strongly in the idea that candied honey could be made nearly dry and powdery by draining; but the Rambler, having tried the draining process, is inclined to the belief that a current of air is necessary to drive out the moisture. All of this drained honey is usually found near stove joints or on the surface. If we had a shop in which a blower was running we should certainly turn a current of air through some candied honey, and watch the effect. If one temperature did not have any effect we would try another and get a range of temperature from warm to icy cold. Will some one try it and give us evaporated honey?

Our next call was upon Mr. Samuel Cotton,

who believes in a diversified pursuit. He runs a farm, an apiary, a Brahma poultry-yard, a flock of peacocks, and a stable of Percheron horses. This carrying of eggs all in one basket does not agree with Mr. C. If the season blasts his hopes on one or two things, the others are successful, and he is happy.

While riding along we were shown the residence of an old-time bee-keeper, Mr. Hugenor, who had no end of peculiarities. While the bees were swarming he constantly repeated in a monotonous undertone the following "charm:"

Flutter, low flutter, nigh;  
Busy bee, don't go high;  
Whirl around the busy queen,  
Alight down here upon the green.  
Steady now, my hearties, steady;  
Here I have a hive all ready.

The bees always alight low, so *they* say. Another belief quite common in the neighborhood, and which came from the same source, is, that bees choose their course on the first of May. This solves a problem that has been of much vexatious study for the Rambler. To diffuse themselves evenly over a given field must necessarily require preconceived action, and that explains why some colonies outdistance their neighbors in honey-gathering. The 1st of May is a great day in beedom. We send you a picture of our happy and wise old friend. No doubt he would be pleased to give much information upon the subject; but, come to think of it, he, like old Grimes, the good old man, is—*dead!*

Having learned all we could about the bees and the people of Steuben Co., we bade our relatives and transient friends good-by, and ac-



HAPPY CONDITION OF THE RAMBLER.

cepted the invitation of Geo. Silsby to ride to Wallace's Station with him in his barouche. Though the roads were muddy and rough, we had a delightful ride. We send a sketch, showing the happy condition of the RAMBLER.

Friend R., you have actually found a bee-keeper who is well pleased with the outside protecting shell we described on page 698 of our last issue. I believe there is something in it yet, although the senior editor threw cold water over it. What we want is something that will enable bee-keepers to use the single-walled hives we already have in use, with a little more expense added, for outdoor wintering. I hope Mr. W. B. Stephens, if he sees this, will enlighten us more concerning it.—Uncle Hugenor looks as though he might be a firm believer in a charm for calling down swarms. No wonder his bees alighted low, for they could not do otherwise.—The happy condition of the Rambler, as shown in the above, calls vividly to mind some of my experiences. I thought it was bad

enough to ride in a spring wagon over some of the York State roads; but to sit in a lumber-wagon without springs, and that on top of a barrel, must have been—ah! well, exhilarating and exciting. Your picture leaves us in doubt as to whether you or the barrel arrived at destination “right side up with care.” ERNEST.

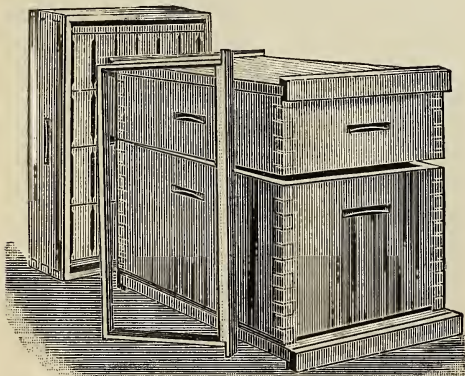
## RECENT DEVELOPMENTS

CONDUCTED BY ERNEST R. ROOT.

### THE DOVETAILED HIVE FOR 1890 AND '91.

I have already explained that my trip to the East was made largely for the purpose of ascertaining how the mammoth bee-keepers of York State dispense with burr-combs and honey-boards. Scarcely secondary to this was the matter of fixed distances. I visited some 25 or 30 representative apiarists, after whom the lesser lights follow. The former own an aggregate of perhaps 50,000 colonies, and manage them successfully without using honey-boards; and the wonder to them was, why they should be deemed necessary by the Western bee-keepers.

Now that I have come home, and the enthusiasm has somewhat subsided, so that I can take a somewhat cool view of the situation, I am thoroughly satisfied that we should do beginners a great harm by offering them slatted honey-boards\* next year, when there is something so obviously better and cheaper. Your “committee” (as one of our subscribers has already begun to call it), comprising J. T. Calvert, business manager; J. S. Warner, our superintendent; A. I. Root, the “big boss,” as he is familiarly called, Dr. C. C. Miller, and your humble servant,† after talking the matter over in all its bearings, have decided to offer the Dovetailed hive the coming year without the honey-board; and, in lieu of it, thick top-frames in the brood-nest. The bee-keepers of the East do not exactly use this style of frame, but they use a top-bar heavier and wider than those of the West ordinarily do. Their bars are, as a general thing, from  $\frac{1}{2}$  inch to  $\frac{3}{8}$  thick, to about an inch or a little over wide. To be on the safe side, our top-bars of the hanging frame in the new Dovetailed hive are to be  $1\frac{1}{2}$  wide and  $\frac{1}{4}$  thick. The engraving below shows the frame as well as the hive.



THE NEW DOVETAILED HIVE.

\* This does not apply to queen-excluders.

† We have also had some correspondence with the W. T. Falconer Co.

With the exception of the thick top-bar frame and the absence of the honey-board, its general appearance is the same as before. But we have changed the hive a little; or, rather, we have made its inside width  $12\frac{1}{2}$  inches instead of being  $11\frac{1}{2}$  as before. You will remember, Dr. Miller spoke of the advantage of having an eight-frame hive wide enough to take in a follower on  $1\frac{1}{8}$  spacing. While we objected to it at the time, your humble servant, while on his Eastern trip, saw that the advantages of the movable follower were so decided that he at once recommended to the committee the widening of the hive; “for,” said he, “if fixed distances ever get to be the rage (and it looks as if they would be in time), either a follower or an open-side hive will be indispensable. Even for hanging frames it will be a very great advantage.” Mr. Calvert suggested that widening the hive would also necessitate widening the super. And this will permit us to use wooden separators with  $1\frac{1}{8}$  sections, or 7-to-the-foot sections without separators. Your committee then decided, with Dr. Miller’s indorsement, to widen the hive. Some of you will argue that this will make confusion; that old hives will not be interchangeable with new ones. Oh! yes, they will. With beveled edges it would not do at all; but with square edges the new bodies will project only  $\frac{1}{4}$  inch on each side over the old bodies, the length being the same. With this very slight change, you that already have the old hives would decide that the very great advantage to new purchasers is such as to warrant us in making the change.

### FIXED FRAMES FOR THE DOVETAILED HIVE.

I think I may say, that, with very few exceptions, the very best bee-keepers of York State use fixed distances; and the favorite frame seems to be the closed-end and the Hoffman. One is used in York State about as much as the other, and both have peculiar advantages; and as it is a fact that these leading lights in apiculture can handle these frames as rapidly as the hanging frames, or, as Mr. Elwood calls them, the “swinging” frame, is it not wise to let those who wish to follow in the tracks of Elwood, Hetherington, Hoffman, and others, do so if they wish, and yet use the Dovetailed hive or the hive they already have in use? Mr. Calvert assures me that fixed frames, either the Hoffman or the closed ends, will cost only 5 cents per hive more than the same hive with hanging frames; and as our United States is made up of bee-keepers of all shades of opinion and preferences, we have decided to accommodate all if possible.

The Hoffman frame is already familiar to our readers; so is the closed-end; but as to how it should be used in the Dovetailed hive or any hive adapted for hanging frames, may not be altogether clear. Well, instead of having these frames *stand* on inside projections, we propose to have them *hang* in an ordinary hive rabbet like any suspended frame. The top-bar, instead of projecting, is sawn off even with the end-bar, and a good substantial blind-staple will be driven into the end of the top-bar just the right distance for a bee-space between the top of the cover and the frames. Mr. Calvert has made a diagram, which, being photo-engraved, is shown on the next page.

B, B, etc., shows the body; C, C, the super; A, A, the cover; A, A<sup>1</sup>, the bottom-board; f shows the closed-end frames, and f<sup>1</sup> the thick-top hanging frames; k the comb-guide, and l the groove with the comb-guides left out for wiring. A staple is driven into the top-bar at k, and hangs in the rabbet, as seen in the diagram at the right, like any ordinary hanging

frame. This method of using closed-end frames in a tight-fitting box is the same as that used by Mr. Tunnicliff, of Van Hornsville, and Mr. Smith, of Starkville.

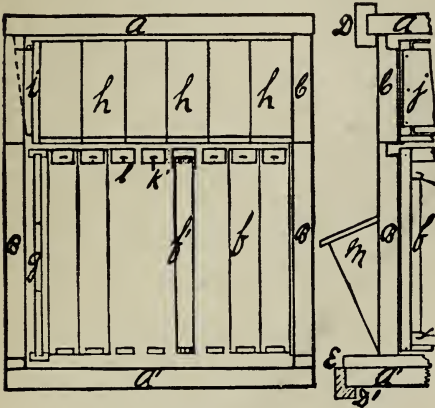
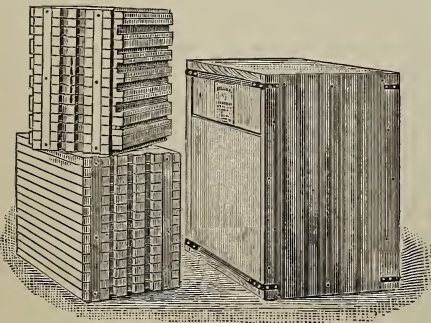


DIAGRAM OF THE DOVETAILED HIVE.

While the Quinby method of using the closed uprights (a hook under one corner so as to hold the frame while standing) may be preferred by some, there are so many L. hives of the hanging frame type, that it will be necessary, in order to use closed ends, to use Mr. Tunnicliff's plan.

In order to reduce propolis accumulations, I noticed that Mr. Tunnicliff uses Mr. Manum's thumb-screws. Mr. Smith, of Starkville, adopted a form of a wedge. Either method will compress the frames, and so reduce the amount of propolis that would ordinarily be secreted in the interstices between the closed ends. Thumb-screws, when they stick outside of the hive are objectionable on account of being in the way, and we have decided to adopt a wedge in connection with a follower, so that the closed ends will be compressed together, and yet leave the outside of the hive plain. In York State and Vermont I noticed that the large bee-keepers, as a rule, used a follower, in connection with a wedge or thumb-screw, to press the sections together, and at the same time facilitate the removal of sections. The foregoing diagram will illustrate the follower. *i* is the follower pressed against the section-holders *h, h, h*. To key up, a stick  $\frac{1}{4} \times \frac{1}{2} \times 12$  is let down perpendicularly, the thinnest way between the follower and the side of the hive. It is now revolved so that the follower, instead of being  $\frac{1}{4}$  inch from the hive side is pressed  $\frac{1}{2}$  inch from it. The projecting end is now pushed down below the side of the hive, out of the way. To loosen up, reverse the operation as above; i. e.,



DOVETAILED PACKAGES FOR SHIPMENTS.

pull up one end of the stick to a perpendicular, turn it around flatwise and withdraw, and the sections are loose. Where fixed frames are used, the same keying-up arrangement will be used in the brood-chamber.

The engraving above shows very nicely a complete package of five Dovetailed hives ready for shipment. The inside furniture, cover, bottom-boards, etc., are all boxed inside, without using an ounce of crating, or in any way interfering with the usefulness of the material afterward. Besides, the sides and ends, as we have before explained, are held compactly by means of four cleats, that are just the same as the inside of the dovetails. The Dovetailed hive is as cheap as any, I think I may say, without boasting, ever before made, comprising from five to ten hives complete.

#### A BEE-SPACE AND WHAT IS RIGHT.

While on my trip I took pains to investigate the matter of a bee-space, and its relation to burr-combs. I feel pretty well satisfied that  $\frac{1}{8}$  is too much. Mr. Elwood, who was never troubled with burr-combs, told me that he uses a bee-space  $\frac{1}{4}$  inch, a little scant if any thing; and all those bee-keepers who had little or no trouble with them, I noticed, were using and recommending this scant quarter-inch bee-space. Those who do not have burr combs are the ones competent to give a correct answer to this. The Dadants, and Mr. Secor, and others of the West recommend this bee-space. We decided, therefore, to make the Dovetailed hive in accordance therewith.

#### BEES AT WATERING-TROUGHS.

DR. MILLER SUGGESTS TWO REMEDIES FOR TWO OF THE TROUBLES IN BEE-KEEPING.

In your answer to John Burr, page 713, friend Root, you seem inclined to think that bees at a well or watering-trough do no great harm. My bees, at least, have been very troublesome. At the Wilson apiary there is a watering-trough at the well, and for the last two years the bees have taken possession of it to such an extent that it had to be abandoned as a place for watering horses, and another place used some rods distant. No doubt you will say, "Why, what harm did the bees do?" Well, I'm not sure that they ever did any harm; but the horses wouldn't drink there, and that was harm enough. I have tried a number of times watering my own horse there. If very thirsty I could get him up to the trough, and perhaps he would plunge his mouth into the water in a kind of desperate manner, but, generally speaking, he would just stand and snort at the bees without offering to drink. I suspect, however, that bees floating on the water got on the horse's lips and stung or at least tickled them. This summer another trough was placed between this trough and the apiary, provided with comfortable floats and all that, and it secured some patronage, but the old trough held the most of its custom. If the old trough had been left dry for a few days, or had been entirely covered up, the case might have been different; but it was pumped full every night to cool the cans of milk. At the home apiary the bees are inclined to annoy every year by getting into any water left standing at the well, and even going into the pump itself, making it difficult to get a pail of water without drowning bees in it. A six-gallon crock of salt water standing a rod away, filled with sticks of rotten stovewood, has seemed enough attraction to keep them away. But it is important that any thing of this kind be started early in the season. Let

them once get into the habit of going to a certain place, and they don't like to change. This summer, before I noticed what was going on, they had commenced visiting the pump, alighting on a half-barrel that stood there with water for the stock. I moved the half-barrel away a little, and was careful to allow no water to stand in anything else. After a day or two I set the half-barrel about a rod from the pump. I put a piece of board in the middle of it, and then covered the whole with a gunny-sack. The gunny-sack sank in the water and kept moist for some distance out of it, and this seemed to just suit the bees. I threw in a handful of salt, so it would not breed mosquitoes, and because I thought the bees liked it. Since then the bees have not troubled at all, although water has stood in pails most of the time at the pump. I recommend for trial a tub or half-barrel covered with some kind of coarse cloth.

#### GETTING BEES TO EMPTY COMBS SPEEDILY.

Until this year I should have answered W. R. Tate about as you have done on page 716. As you know, I have practiced letting the bees clean out sections in the fall by simply setting them outdoors and covering them up with entrance for only one bee at a time. This works satisfactorily so far as the sections are concerned, but you have no control as to which colonies get the honey. Placed over a colony, the bees, as you say, may empty it in a month; but if sealed, and there is no scarcity of stores in the hive, some of it may be left all winter. Now let me tell you how I have reduced the time to two or three days. I have just been to look at some sections that were given to the bees 24 hours ago, and I think all the unsealed honey is cleaned up, and they are working at the sealed. If I had uncapped it I think that part would have been emptied first. The sections to be emptied were in T supers, but brood combs could be emptied in the same way. I lifted the hive off the bottom-board; put upon the bottom-board two supers of sections, one on the other; on top of these an empty super, and on top of this I returned the hive. Every thing was bee-tight at the bottom to prevent the entrance of robbers, and you will see that the entrance of the hive was raised some 12 inches, but this troubled the bees very little. You will see that the empty super made a space of several inches between the bottom-bars and sections. This is essential, for I tried it without the empty super, and it didn't work. I also tried the empty space over the hive, but it didn't work. The two essentials are, putting the combs *under* the colony, and having a space between them and the bottom-bars.

Marengo, Ill., Oct. 6.

C. C. MILLER.

Well done, old friend. Your remedy for bees around the pump is something like the way physicians work when they apply a blister or a plaster—a counter-irritant. The trouble is, your tub or barrel will not receive the attention that the average pump or well does; and then the bees will go where there is the strongest inducement. I am glad of that suggestion of yours, that a handful of salt will prevent the water from breeding mosquitoes; but are you sure that they like water that has been standing a long while, just as well as that fresh from the bottom of the well? I know they sometimes seem to like stagnant water best; but I never felt quite satisfied in regard to it. Is it not because the stagnant water is easier to

find than fresh water? Now, if keeping bees does annoy people around their pumps and wells, it is a matter that should be looked after. When people go to the expense of providing plenty of good water, with pumps and troughs to match, they ought to have the undisturbed benefit of it.—Since you mention putting the sections of broken comb at the entrance, *under* the colony of bees, instead of *over* them, it rather seems as if somebody had before suggested it. Is any one smart enough to tell us where it occurred in the back volumes of this or any other bee-journal? And, by the way, doesn't the above experiment indicate that the best place for a feeder is under the brood-nest?

#### DISCRIMINATION IN DISCOUNT.

BUYING BY PIECEMEAL, OR BUYING BY WHOLESALE.

You state in your catalogue, that any one sending an order for a large amount of goods can have them at a discount. It seems to me the poor man who is not able to buy in large amounts should have the benefit, as the rich one is able to pay for his goods; but it seems to be the rule to make the rich richer and the poor poorer.

J. R. COMSTOCK.

Morrilton, Ark., Sept. 1.

Friend C., this matter has come up a good many times, and quite a number of the friends have seemed to think that we were unfeeling and forgetful of the needs of those who have but little, and must buy in small quantities. One friend even went so far as to say he did not see how a man could be a Christian and refuse sell to a poor man one pound of sugar at the same price he charged a richer one for 100 lbs. Now, those who make such statements are certainly thoughtless, and have not looked into the matter carefully. The friends who have tried retailing honey know how it is. After any bee-keeper has sold 100 lbs. of honey, a pound or two at a time, if his time be worth anything he will say at once that he would rather have 8 or 9 cts. per lb., and sell it all in one lump, making one transaction of it, than to have 10 or even 11 cts., weighing out a pound at a time. Now, this is true of every commodity to a greater or lesser extent; and when it comes to keeping books, and charging up a pound or two pounds at a time, and taking the chances of getting your pay, etc., plain common sense dictates that a lower price by the lump, especially if it be a cash-down transaction, is by far to be preferred. Why, dear friends, the whole world is groaning under the burdens imposed as a consequence, because so great a part of the world will persist in buying a little bit at a time. My wife was greatly astonished a few days ago when I told her that a good many customers for our wagon buy half a peck of potatoes at a time. Years ago we decided in our household that we *could not stand* the wear

and tear of purchasing in little dribs. Suppose you wait till the sugar is clear out; then you send to town for a couple of pounds. If there are several other little items, the sugar is often forgotten. So with butter; so with tea and coffee; soap, etc. Now, contrast this way of doing with friend Terry's plan. When I congratulated his wife on the beautiful bread we had to go with the strawberries, he replied that they always had beautiful bread because they purchased flour only once a year. The quality was guaranteed; and when Mrs. Terry learned just how to make nice bread of that particular brand, she could do it *every time*. By the way, friend Terry has been recently writing some grand articles on this subject for our agricultural papers. Ask your wife what she thinks about it.

Now comes the great obstacle. I presume, friend C., you will say that it is all very well for Mr. Terry and other people who have money in the bank; but how in the world are poor people going to buy supplies by the quantity? My friend, it costs you very much more to buy in little dribs, aside from the higher price you are obliged to pay. Why, I have known farmers to say they had to go to town right in haying or harvesting, to get some sugar, tea, or molasses, or something of that sort. A little reflection should have convinced them that their time spent on the errand was worth more than the goods they brought home—yes, a good deal more. I have known a man to go on some foolish errand like this when he lost *five dollars* that might have been saved had he stayed at home and got in his hay and attended to his other crops.

Now, very likely many can not commence at once buying supplies to last a *year*; but, my friends, if you strain every nerve you can work toward it, and you will save money by so doing until you have a little surplus with which to buy in quantities. It takes *time* and *brains* and *care* to buy closely and to be sure that you are getting only a first-class article. Now, when you buy by the quantity, the time, brains, and care are needed only once, to be sure you get a low price and a first-class article. Then *use* it with economy and care, and make it go as far as possible. Do not, I beg of you, let an *ounce* of your nice flour or best grade of sugar or nice butter go into the swill-pail. Please pardon the expression, but I have felt constrained to use it because I have seen people who were poor, and who bought from hand to mouth, as the saying is, let more rich food go into the abovesaid pail than do people who have large property, and money in the bank. A great many people excuse themselves for buying in little dribs, by saying they make their purchases evenings, when their time is not worth any thing. It is a mistake. Everybody's time should be worth something evenings. He can educate and inform himself in a

thousand ways during his evenings to far better advantage than he can by loafing in the corner groceries.

Another thing comes in right here: The people who buy in little dribs almost always do the buying with a *pipe* in their mouths. They buy their tobacco and pipes in little dribs, just as they do their flour and sugar. Our shorthand writer says that tobacco is the second item of expense to our nation—far more than either sugar or flour. Now, I would stop buying piece-meal, even if it cost me such a sacrifice as going on short rations for a while. I would wear old clothes, and eat very cheap plain food until I could get money enough ahead to buy by the quantity. In regard to this matter of plain cheap food, I have a little story to tell you; but I think we will make it another article.

I have so far said nothing in regard to our catalogue prices. You notice we give the price on a single article, then on ten, and then on a hundred. Some time ago a young man came into our store and wanted some things to start a store himself. We agreed to let him have single articles at 10's rates. Well, I kept account of the time it cost to put these things up and ship them to him. It took a pretty smart clerk the best part of a day, and it amounted to only \$10.00. Our profit could not have been more than 50 or 75 cts., so we really *lost money*. Now, if he had taken \$10.00 worth of things in the regular way, half an hour would have been ample time for the whole transaction. And this is no exaggeration.

Many families waste valuable time and strength year after year in buying soap a bar at a time. Why, it is fearful. Dear reader, if you have been in the habit of doing that, stop it this minute. Ask your grocer how much lower he can sell you if you take it in lots of ten or a dozen, according to the way it is put up; or, better still, get his best figures on a whole box of just the right kind your wife likes best. Of course, she must keep a careful watch of the box of soap, and see that it is not wasted. If she is in the right sort of partnership with you in saving the pennies, she will do her part, I assure you. Have the right sort of soap-dish, and see that the children learn how to use this soap so as to make it go as far as possible, and yet give you all the benefit that soap *can* give. I am sure you can do it if you set right earnestly about it; and if you want to know just what Uncle Amos would recommend, it would be this: Just before you go to bed at night, you two, husband and wife, kneel down by the bedside and ask God's blessing on the project. Ask him to brighten and sharpen your intellects—give you wisdom and understanding in this matter of economy in the household; and you might also read that beautiful little text, "Whosoever hath, to him shall be given; and whosoever hath not, shall be taken even that which he seemeth to have."

# ERNEST'S NOTES OF TRAVEL AMONG THE BEE-KEEPERS OF YORK STATE.

## ON THE BICYCLE.

I left the reader at Mr. B. Van Wie's, and had just mounted the wheel. It was a beautiful morning, cool and bracing, and I felt in excellent trim for a day's wheeling. When we bicyclers start out for a day's run we at first experience a little weariness on the first two or three miles; and it seems as if it would be impossible to travel all day; but very soon the "second wind" comes on, as the wheelmen style it. I had just ridden far enough to wear off this first tired feeling, and to feel an exhilaration that comes after a five-mile ride. Yes, I felt as if I could go all day, and more too. The hills did not tire me, and the coasting down hill—oh, how lovely on that bright morning! I had gone about ten miles when I met a liveryman just coming down a big hill. I had ridden part way up it, and then dismounted. My face was, I suppose, somewhat flushed from the glow of the exercise; and the aforesaid man of horses, mistaking it for weariness and exhaustion, said, somewhat jeeringly, "Well, young man, I wouldn't travel across the country in that way for all the bicycles you can give me;" and with a crack of the whip he passed with a flourish, down the hill, as if he had said something very smart. I leisurely walked up the hill in the opposite direction; and on arriving at the top I again betook myself to the saddle for another delightful coast.

"No, old chap, I would not exchange my vehicle for your old rattlety-bang, for a good deal."

Noiselessly I sped down the hill. The panorama of scenery; a deep valley here, and a hill on the other side; the winding and twisting of the road, a wayside spring, a little brooklet,—all of these added to the charm of that bicycle ride. Just ahead of me I noticed a man hitching up a light rig with two handsome bay horses. They seemed to be full of spirits. The owner, seeing me coming at a distance, I judge decided to let me catch up, or nearly so, and then thought he would run away from me. For a mile or two he did. I did not propose to make a fool of myself chasing after him. I stuck to my usual gate, and before long I came within a short distance of his tired and panting horses. He evidently regarded it as a race, by the way he kept looking back to see if I were catching up. I pretended not to so regard it. I saw his horses were beginning to lag; and when a favorable opportunity presented, that is, a clear piece of road—I very modestly asked him if I might have the privilege of passing, as I was in a hurry. "Oh! certainly," said he, and he turned his horses to one side, for I saw that he was quite willing that I should *believe* he was not trying to run a race with me. The road was a turnpike, and for the most part it was good wheeling. In a few minutes more my friend with his two horses was out of sight.

All along my route I inquired very diligently as to whether the road ahead had any sandy spots. The terror of all wheelmen is sand, and I should prefer to go four times as far around on clay rather than to attempt a short run over the sand. Just before reaching Middleburgh I struck a little piece of sand. Following along some paths along the road I managed to get along very well. In a few minutes more I was in Middleburgh, where I arrived about 11 o'clock. On inquiry I learned that Mr. Wesley Dibble and Mr. N. D. West, bee-men, whom Mr. Van Wie recommended me to call upon, lived a short distance out and directly upon my route. I asked a hotel clerk if I might

have a drink of water. He pointed to a water-tank outside of a bar. I hesitated somewhat; but being thirsty I took a small draught of water, without waiting to take any thing else.

I should remark right here, that, in making tours across the country, wheelmen, like horses, get thirsty; but we are obliged to be very careful and not drink too much water while in a sweat. I felt many times as if I should like to drink a whole quart; but I never took more than two or three mouthfuls; and after a while, on these limited rations of water every ten miles or so, the thirst would subside; and it is needless to say that I felt better for it. Temperance in all things—yes, even with water—is advisable and prudent. Well, I mounted the wheel, and in a few moments more a bee-keeper's home was pointed out to me—that of Mr. Wesley Dibble. I wheeled up alongside of the house, dismounted, and inquired if that was the place where Mr. D. lived. An affirmative answer came from the gentleman himself. The pump had gotten out of order; and the water being low, he had withdrawn it; and, having repaired it, he was about to put it back in. I arrived in time to help him put it down, when he conducted me to the apiary in the rear of the house. It was a very pretty yard, and contained 70 or 80 eight-frame hives, of a pattern almost identical with the Dovetailed hive. Like all other progressive bee-keepers of this section he used fixed frames. If I remember correctly they were closed-end, and suspended, something like Mr. Tunnick's that I explained on page 641. Two or three years ago he bought 50 Heddon hives, but he has discarded them all now. I might say in this connection, that I heard of another bee-keeper who had purchased some 45, and had likewise discarded them. Both averred that it was too much trouble to handle so many frames, and they finally went back to the regular Langstroth.

## AUTOMATIC SWARMING A SUCCESS.

But what interested me particularly at Mr. Dibble's was his automatic swarming-arrangement. It was his own invention, having conceived the idea some two or three years ago. During the past season he has been using it successfully in his two out-apiaries. A colony that he thinks is about to swarm is fixed with perforated zinc tubes, and an empty twin hive is set beside it. When the swarm issues, the queen passes along the tin tube into the empty hive where the returning swarm meets her, settles down, and builds up a new home. The plan works so successfully with Mr. Dibble that he always swarms bees in this way, and is enabled to dispense with the services of a man in each yard, or a bounty of 25 or 50 cents for each swarm hived.

"Why," said I, "your arrangement is very similar to Mr. Alley's."

"Yes, it is similar," said he; "but it is my own invention, and I had been working along this line a year or two before Mr. Alley or Mr. F. D. Lacey made their inventions public."

The ever-ready Kodak was pulled out, and I took several views of the swarming-arrangement, and also of a handy tool-house for bee-keepers. Both of these I will illustrate and describe more minutely later, when the engravings are made.

Mr. Dibble is considerable of a genius. He has constructed a horse-power and hive-making machinery, whereby he makes all his appliances. That he is a good mechanic, is evidenced by his fine work. After taking dinner with my friend I buckled on the Kodak, oiled up, and betook myself to the road again. Mr. N. D. West, owning some 400 colonies, lived a couple of miles beyond. A short spin of a few min-

utes, and I arrived at the place. I tied my horse up beside the fence, dismounted, and rapped at the door. I was not quite so fortunate this time as I had been on former occasions. Mr. West himself was absent, but fortunately I met his son, who evidently was a good bee-keeper. I was in a great hurry to see all I could, and I explained to the junior West that I had to make some miles yet, and would have to hurry at his place more than I really preferred; I might strike some bad roads, and need plenty of time. We immediately went out into the apiary. Here, again, fixed distances are used. Some of the frames are the Hoffman, and others are the regular suspended, with nails driven in the right distance, to hold them at fixed distances. They have in all 400 colonies in three yards. The season had been a poor one, but they would average about 25 lbs. per colony. We soon repaired to the shop, where I noticed a similar horse-power to that used by Mr. Dibble. My stay here was probably not more than 15 or 20 minutes; and after apologizing for my short visit I again took to the wheel.

#### HOW I RAN AWAY FROM A BEE-KEEPER.

Being in company the night before with a lot of roughs in the hotel at —, as mentioned in the previous number, I presume that I was a little bit nervous. I came along to a stretch of road where there was a sort of sidehill. It was down in a kind of valley, and quite remote from any farmhouse—possibly a mile either way. I saw a man going along the road, with a walking-stick. "Now," thought I, "may be he is all right, and doubtless won't do any thing out of the way, but I will just steal upon him rather quietly. As the bicycle is perfectly noiseless, when I get just about opposite to him I will spin by him before he knows it;" and this was almost immediately put into execution. After I had got a little distance beyond, I thought I heard him calling to me. Whether I did or not, I hustled up the hill as fast as I could. On arriving at the top I coasted down the hill at the rate of about a mile in four minutes; and as I was speeding down as if on wings, I congratulated myself on how *nicely* I had fooled the personage whom I had met in the valley back of me. I finally came to a farmhouse, and mentioned the little circumstance.

"Oh, no!" said the farmer; "we are all honest men down this way."

"That may be," said I; "but if you had been traveling over the country as I have been, alone, you would not be disposed to trust every man, especially when you are off alone a mile or two from any farmhouse."

At this point I can not forbear giving you the sequel. I do not know whether it is a joke on myself or on my friend, but it is rather on me. Just read this extract from a business letter:

#### EXTRACT FROM A BUSINESS LETTER.

Mr. N. D. West stopped at my house to-day. He told me that Ernest Root was at his house on the 13th, and that he passed through this place on his way to Durham. Well, I saw him a short distance off. If he remembers, just before he reached this place, on the right, below the road, a level piece of land, swamp, and meadow. I was down there looking to see what the honey prospects were from the golden-rod and bonaset. I saw some one pass along the road on a bicycle, as if the "old boy" was after him, so I hurried up the bank and after him, just in time to see him going over the hill, nearly out of sight. If I had known it was Ernest, I should have overhauled him. I think I could have done it, as he had quite a hill to go up. I am very sorry that he could not stop and see me. I hope he will if he ever comes this way again.

BEN FRANKLIN.

Franklin, N. Y., Aug. 21.

Well, well! a bee-keeper and an honest man! and I, a doubter of a fellow-being! After arriv-

ing home I was told that there was a letter from a man who saw me going through the country, but was not able to overhale me. I did not say any thing, but I began to suspect that I had made a fool of myself; and the writer of the above, I have no doubt, was the very individual who would have given me a nice bee-talk, and told me about his bees. Well, I hope he will forgive me; but who in the world would have thought that there was a bee-keeper who knew me, in that lone valley? and when he would stop me for a friendly chat, I just ran away! Well, I wended my way on my journey, entirely oblivious to the fact that I had run off and left one of my bee-keeping friends.

#### A RACE WITH A HORSE.

I finally came to a toll-gate. I stopped and inquired the toll. "Oh!" said the good-natured toll-keeper, looking at me and my wheel, "we hardly regard your rig as worth considering. You may pass on," said he, waving his hand. I did not know whether to feel pleased or not. At any rate, another rig, just behind me, came up, and the driver paid his toll. He had a race horse and a sulky; and from the former experience I had had, I knew that he wanted to see whether that fellow with a wheel could keep up with him. I put on all speed, but endeavored to *appear* as if I were not racing, but simply taking my ordinary gate, you know. I managed to monopolize the whole road, so that it was a difficult matter for him to pass, even if he would. There were farmhouses all along this road, and I rather enjoyed the fun. We ran together for perhaps two miles, and I was beginning to feel as if I had got tired of racing—at least, running at such a rate of speed—when I observed that the panting of the horse behind me was growing fainter and fainter, and finally, in a few minutes more, the driver and the horse were nowhere to be seen. The fellow *could* have gone by me, I know; and I am equally sure that, after a run of five miles, the wheel would have been a long distance ahead. I do not speak of this because I have any superior skill or endurance as a cyclist, but only to show what a mediocre rider like myself has done many a time. A good horse will outstrip a bicyclist for a short distance; but they are away behind on a long run.

Yes, sir; a Victor bicycle is worth regarding, the toll-keeper to the contrary; and while I am not *anxious* to pay toll, I like to have that most delightful of all steeds, the Safety bicycle, at least put on a par with the best of horses, both for speed and endurance for long runs; but to prove that parity, I hardly think I shall agree to race with every horse-jockey.

After stopping on the way for a refreshing drink I again started, and in an hour or two more I saw the spires of Durham. How my heart leaped at the sight! I had not seen my wife for a *couple of weeks*, and that was an awful long while for me; and I felt that my feelings duplicated hers. On arriving at Durham I was informed that Shady Glen—the place where she was stopping—was about three miles out. Over a winding and somewhat hilly road I traveled until the welcome sign, "Shady Glen," pointed to the place. In I came, with a flourish. It was then only three o'clock. I had gone 45 miles that day, visited the bee-keepers on the way, seen some beautiful country, and all before three o'clock. Mrs. Root was on Mount Pisgah, with a party of tourists, and would not be back till night; but a little niece recognized me among the first; and finally I met her papa and mamma. I was asked if I was tired. No, not at all. I was ready for a romp down the glen, and away we went.

[To be continued.]

### SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

That art on which a thousand millions of men are dependent for their sustenance, and two hundred millions of men expend their daily toil, must be the most important of all—the parent and precursor of all other arts. In every country, then, and at every period, the investigation of the principles on which the rational practice of this art is founded ought to have commanded the principal attention of the greatest minds.

JAMES F. W. JOHNSTON.

RAISING FEWER KINDS OF VEGETABLES; E. C. GREEN, OF THE OHIO EXPERIMENT STATION, DISCUSSES THE MATTER.

*Mr. Root:*—Your idea of making your catalogue of seeds contain only one or two kinds of the best, struck me so favorably that I have added my mite. After being here at the station in the garden for two years, and testing varieties of vegetables by the wholesale, as one might say, this idea struck me as a most sensible one, especially so when coming from a seedsman. To give an idea of the seeds we test, this year our list is something like this:

Potatoes, about 90 kinds; onions, 40; sweet corn, 40; tomatoes, 50; celery, 50; cabbage, late, 40; early, 20; and so on through the list of vegetables, to say nothing of small fruits. We have been trying to cut our list down to include the standard of the old kinds and the newer varieties.

In lettuce we have made three tests during the past year—two in the greenhouse and one in the field, which included about 90 so-called sorts each time. I say "so-called" sorts, for it is not at all strange to find one kind with several names; and it sometimes happens that a seedsman will send out the same kind of vegetable under two names. Taking, for example, lettuce, I found, out of the 90 so-called varieties, they could be divided into about twelve classes, each class containing from two to eight varieties. Thus, in one class would be put the Grand Rapids, Black-seeded Simpson, and White-seeded Simpson, and others of this class.

But after seeing all these kinds growing, I can say that there seems to be one or two in each class that contain the best points; and, taking this with the fact that about two-thirds of the classes are not worth raising, it cuts the list down to a very few kinds; and when we get it down to a few there are still some that are the best for particular markets and uses.

To cut down a list is quite easy work until we get to the last three or four, and then comes the trouble unless we know just what the market or use they are put to calls for. For example, does your market call for a bush lettuce, then give them the Black-seeded Simpson or Grand Rapids; if they want a head lettuce, then the Deacon is good; or one for table decoration, then the Boston Fine Curled. What is true of lettuce applies to nearly all vegetables; the different kinds and sorts are mostly made by the seedsmen in order to have a novelty to introduce. Still, there is something new brought nearly every year that is valuable; but to find them among so many that are worthless is a costly task; and, on the whole, it is nearly always more satisfactory to have one or two kinds that do well than so many failures.

Columbus, O., Oct. 6.

E. C. GREEN.

Friend G., "a friend in need is a friend indeed;" and you have come to my aid most opportunely. Why, with the experience you have just been having you can do us an immense service. A brief article from you—say a single page in GLEANINGS—will probably save our readers alone thousands of dollars, especially if

they profit by it. Now, to start the ball rolling I will briefly map out what I have been proposing for the next year. In the following list, where I mention only one vegetable it will be understood that we have decided we need only one kind. After I get through I want your amendments and criticisms at length. Very likely you will double or treble my list. But that is all right. I want you to do so if the best interests of the people demand it. Now, here goes:

*Asparagus*—Henderson's Palmetto.

*Bush beans*—Henderson's Bush Lima; Kidney Wax; White Kidney.

*Pole Beans*—King of the Garden lima.

I am not sure that the King of the Garden lima is very much larger than selected beans from the ordinary lima; and you will notice that I have dropped the Extra Early lima. I have done so, because a great many seasons they are little if any earlier than the King of the Garden.

*Beets*—Eclipse; Lane's Improved Sugar; Long Red Mangel.

*Cabbage*—(I tell you, friends, it is a hard matter here. I have decided not to recommend more than four kinds; but in selecting the four I felt a good deal troubled; but here goes for an attempt.) Jersey Wakefield; Excelsior Flat Dutch; Perfection Drumhead Savoy; Large Red Drumhead.

*Carrots*—Orange Danvers.

*Cauliflower*—Early Snowball.

*Celery*—White Plume; Golden Dwarf; New Rose.

*Sweet corn*—Corey's Extra Early; Late Mammoth.

*Cucumber*—Early Frame; White Spine.

*Lettuce*—Grand Rapids; Boston Market; Henderson's New York.

*Muskmelons*—Landreth's Extra Early; Emerald Gem; Banana.

*Watermelons*—Landreth's Extra Early, and—after all the kinds I have planted and tested, I am not really satisfied to give any single one the preference. Friend Green, please supply one besides the Extra Early.

*Onion*—Silver Skin; Globe Danvers. For a large foreign onion, started in the greenhouse, I would suggest White Victoria, although I am not sure that it is any better or much if any different from the Silver Skin; for a winter onion, Winter or Egyptian onion-sets.

*Parsnip*—I do not know which kind is best. I am not sure there is much difference.

*Parsley*—Double Curl.

*Peas*—Alaska; American Wonder; Strata-gem.

*Peppers*—Bullnose; Cayenne.

*Potatoes*—Now, right here I can not really decide whether we want both Early Ohio and Early Puritan or not; and if we want only one, I am afraid to put either in place of the other. For late I would have Lee's Favorite; and for a

very late potato, Terry's preference, which he calls the Monroe Seedling.

*Pumpkins*—For the market-gardener, Early Sugar.

*Rhubarb*—I do not know which is best—Victoria or Linnæus.

*Radishes*—Vick's Early Scarlet Globe; Wood's Early Frame; Beckert's Chartier; Chinese Rose. This list is rather long; but as each is particularly suited for some special season, I do not know how we can avoid having so many.

*Salsify*—New Mammoth.

*Spinach*—Bloomsdale Curled.

*Squashes*—Giant Summer Crookneck, and Hubbard for a winter squash. I have become disgusted in trying the much-lauded new squashes, and finding, after all, that none were equal to the old genuine Hubbard. The Hubbard not only sells better than any thing else, but with heavily manured and early worked ground it yields about as many tons per acre.

*Tomato*—Ignotum. I should rather like to have the Golden Queen, and possibly some Peach tomatoes and Pear-shaped, just for the fun of it; but for actual profit I do not believe it pays. We have for years carried the Pear-shaped tomatoes on the wagon until they became so bruised they were worthless. Once in a while somebody wants them; but the demand is too small in our town to pay for carrying them around.

*Turnips*—Purple Top White Globe, and some sort of French or Swede turnip. For three or four years past we have not found one that suits us. When I was a boy my father used to raise them as big as a peck measure, and they were sweet and tender when cooked. We have not succeeded in getting any like them during the past ten years. I wish somebody would tell me whether the fault was in the seed or location. Father raised them on sandy, gravelly soil. We have tried them here in Medina in all kinds of ground.

Now, friends, after friend Green has given his opinion and advice I want you all to pitch in and help. I am going to have a seed-catalogue before the first of January, all on one page, even if it costs hundreds of dollars to get it down on one page. It may need to be amended more or less every year; but my present notion is, that it must be kept down to about the number of varieties I have outlined above.

#### TERRY'S METHOD OF GETTING AN EVEN STAND OF STRAWBERRIES, NEITHER TOO THICK NOR TOO THIN.

*Friend Root*:—We are thinning out our strawberries now, and I was just reading what you say on page 720. Probably friend Pierce and myself are both right for our different circumstances. He makes a business of growing small fruits, and says he kept a man in his berry-field all through August, and September, perhaps, to train the runners and let only enough grow to make a proper stand. He further says, a weed is a plant out of place, and asks, in the *Country Gentleman*, why I let them grow and occupy the

ground, to be taken out and thrown away afterward.

I am a farmer. In August and September our time is very valuable at our regular work. If I had the berries carefully watched during that time, and only those plants that were needed were allowed to take root, I should have to hire extra help to do it. Now our hurry is over, and my man can do it at no cost, as there is nothing else that needs attention.

When the runners were well started we went through once and placed them around, and then let them grow unmolested. The stand is almost perfect. I wish I could send you a photograph. It is natural for strawberry-vines to grow and run and multiply freely, and I believe they are the most healthy and productive when allowed to do so. But to make the fruit large we must thin them out after they get about through. Again, I would rather do this all at once, now, than to go over and over the patch for months. With a garden-trowel, ground sharp, we find we can, with a single push, cut the plants off just at the bottom of the crowns, and take them out very rapidly, without making any hole or disturbing the others. As they have been running since the last of June they will hardly do any more of this, and the thinned-out plants can now grow and get a good ready for business next year.

We have cut our rows down to paths 16 inches wide, and beds 32, with plants as nearly 6 inches apart every way as possible. I do not think as many bushels to the acre of as fine large berries can be grown practically in any other way. There are other plans that will grow as large fruit but not, I think, as many bushels.

When destroying the small feeble plants, and the large ones where they were too thick, last year, we left them in the paths and some in the bed. It wasn't a finished nor a satisfactory job. This year we put them in baskets and remove them. The plants are held to each other by the runners, so it is not easy to get them out, except by cutting these off. If the side of the trowel is ground sharp we find it will cut them readily.

Hudson, O., Oct. 4, 1890.

T. B. TERRY.

Friend T., we know by experience that there is wisdom in what you say. We have gone over our plants three and perhaps four times with some of them, where they were set in July, and it is a pretty big job. I feel quite certain that your plan would be the best economy of labor, and perhaps the economy of labor would make up for what would be gained in not having the ground at any time overcrowded. It is a question in regard to the help that may be available. As I have already said, it takes a person of skill and experience to do the work nicely. Boys, as a rule, will take a great amount of time, and not get just what you want even then, unless they are, say, toward 18 or 20. I heartily agree with you in regard to putting the refuse plants and weeds in a basket. With a little practice, our children will pull weeds and put them into a basket about as quickly as to throw them on the ground; and if they are in the habit of giving each weed a fling, there will be a saving of time by putting them into the basket. Then your work is clean and well done, and your path looks slicked up; whereas if the weeds are thrown in the paths, when a heavy rain follows a great many will grow. I have just had a most interesting and pleasant visit from two of our

leading strawberry-men—Matthew Crawford, of Cuyahoga Falls, and Mr. Little, of Canada. Mr. Little is the gentleman mentioned in the strawberry book as the one who got well in spite of the predictions of the doctors. Getting interested in strawberries is what cured him.

Friend Crawford and myself, and others who sell strawberry-plants, can make use of these little plants where they get in thickly, especially where the variety is a valuable one. Put them in the plant-beds 6 inches apart; and when they grow big and strong, use them to fill orders. Friend Crawford, this season, succeeded in getting splendid strong plants by using the sets before they had made even a single root. He did it, briefly, as follows: Cover your rich plant-beds with clean sand to the depth of an inch. Put the sets down in the sand, say two or three inches apart. Keep the sand constantly wet, as florists do for cuttings, and cover the bed with a cloth frame until the cuttings are rooted. You can put them down quite deep in the pure sand, and the new leaves will make their way up through it. The new roots will push out into the sand readily, and when they get down into the very rich plant-bed soil they will grow amazingly. I wish I could tell you how we three strawberry enthusiasts enjoyed the walk over our grounds. And there was another tie that bound us together. We could all heartily unite in outspoken thanks to Him who gave us not only the strawberry-plant, but all these other wonderful gifts.

#### PETER HENDERSON'S PLAN OF RAISING STRAWBERRIES.

Can you explain why Peter Henderson speaks confidently of his method of planting potted strawberry-plants in July and getting a full crop the year following, and then planting the ground to some late crop? With him this seems to be no experiment, but rather a common practice. Now, most growers differ with him in practice, and agree with Mr. Terry; viz., spring planting. Which is better? Again, would the Sharpless or Parker Earle do as well as the Jessie to fertilize the Haverland?

Kingston, Pa., Sept. 30, 1890.

M. G.

Friend G., I suppose there is no question but that spring planting will give a larger crop than planting in July, even with potted plants; but with Peter Henderson's ground, with its great fertility, in consequence of heavy manuring, no doubt he could do wonders with strawberries. I do not believe, however, that he ever raised very *many* strawberries on that plan. I have visited his grounds at two different times, and all I could find was a small plot devoted to raising potted plants.—The Sharpless will not answer as a fertilizer as well as the Jessie, because it does not produce so large an amount of bloom, both early and late. The Parker Earle is now growing finely on our grounds, but we have never yet fruited it.

#### THE OREGON EVERBEARING STRAWBERRY.

As we have received several hundred letters from our advertisement in GLEANINGS, asking

about the Everbearing strawberry, we will answer them all through GLEANINGS. We have no more plants to sell, but will send a few to those who wish to test them, and will report how they succeed. With us the berry has done wonderfully. We purchased 150 plants of Mr. Winquist last year. A few were set on poor clay soil, and the remainder on very rich soil. Those set on clay soil have borne profusely all summer, and are at this date laden with berries; but those set on rich soil did not bear so profusely, but have made many sets, while those on clay soil have made no sets. We believe the berry will be a success if planted on clay for berries and on rich soil for sets.

J. B. ALEXANDER & Co.

Hartford City, Ind., Sept. 22, 1890.

Well, friends, GLEANINGS proved to be a very good medium to advertise in, in this case, it seems to me. We are sorry to say, however, that our Everbearing strawberries from Oregon do not seem to be very thrifty, and at the same time are in very rich ground. While in our plant-beds in the spring, they were sending out runners about as rapidly as any of our plants; but in order to make room for our new building, they had to be removed; and although they were carefully transferred with transplanting-tubes, they have acted sort o' contrary ever since. *Some* of them are, however, putting out runners fairly, but no fruit.

## OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

QUESTION 170. *On the average, which will do a better season's work—a colony of pure Italians or one of hybrids?*

We prefer the Italians.

Illinois. N. W. C.

Mrs. L. HARRISON.

My experience favors the hybrids.

California. S.

R. WILKIN.

I don't know. I prefer the Italians.

Illinois. N. C.

J. A. GREEN.

After testing the matter *thoroughly* we prefer pure Italians.

Illinois. N. W.

DADANT & SON.

I have not had a colony of pure Italians for a number of years.

Ohio. N. W.

E. E. HASTY.

I don't notice any difference. I have colonies of hybrids that are far ahead of some of my Italians, and *vice versa*.

Ohio. N. W.

A. B. MASON.

Italians, for white honey. In some localities where much fall honey is secured, hybrids might do as well or better.

Vermont. N. W.

A. E. MANUM.

Hybrids, in this locality. In some places pure Italians are better. Many hybrids are called pure by their owners.

New York. C.

P. H. ELWOOD.

I don't know; but I believe there is more in the way bees are managed than there is in the breed or race.

Wisconsin. S. W.

E. FRANCE.

This depends. I think no invariable rule can be given. It depends much on the individual character of the colonies.

Michigan. C.

A. J. COOK.

There was a time when I thought that hybrids were the best honey-gatherers; but I have changed my mind. I believe that the Italians are the most profitable bees.

Ohio. S. W.

C. F. MUTH.

Doctors disagree. I got severely bounced once for giving my opinion upon this delicate question; and now, if you please, I'd rather not say.

Ohio. N. W.

H. R. BOARDMAN.

There is little difference in a good season; but in a medium to poor season the Italians are very much preferable. Then we must have the Italians to get a hybrid Italian, you know.

New York. C.

G. M. DOOLITTLE.

I am sorry to say I know nothing about it from actual observation. Reasoning from analogy, I should think it possible we might expect more vigor in a *first* cross than in a pure race.

Illinois. N.

C. C. MILLER.

The querist speaks just as though hybrids were hybrids, and all just alike. I will say that the right kind of hybrids from the right races of bees, and the right strain of these right races, will do a better business than any pure Italians. That is my experience.

Michigan. S. W.

JAMES HEDDON.

It might be a little hard to determine. For extracted honey we prefer the Italians. They are nearly moth-proof, and defend their hives well from robbers. The first cross from pure Italians and blacks generally produces bees that are hard to beat as honey-gatherers; but it is difficult to keep just that grade, hence we prefer Italians.

Wisconsin. S. W.

S. I. FREEBORN.

Our preference is for the hybrids. Our best out-apiary had very good Italians. The young queens met black drones, which were plentiful in the neighborhood. The cross caused the bees to become very industrious with their stings, and we have been compelled, not by threatenings of law proceedings, but out of courtesy for the feelings of others, to move the apiary to a less exposed position, some 20 rods from any habitable building. These bees were tearers for gathering honey. They beat the record of all my other apiaries.

New York. E.

RAMBLER.

Well, friends, I am astonished, and I don't know but I might say I am a little bit disgusted, to see that so many of you intimate that there is not "very much difference." Friend Doolittle hits the point I have in mind. If it were not for the *Italians*, you would not have even any hybrids. And now, friends, if I may disagree with so many good men, I can hardly believe there is one of you who would keep on bee-keeping with any thing like his present energy and enthusiasm if your future operations were to be confined strictly to black bees and nothing else. Friend France was pretty positive when I was there, and I am glad to know that he has changed enough to say just now, "I don't know." If I am not mistaken, he once told me that he would just as soon, or a little rather, have the "simon-pure blacks." Very likely they would

be more peaceable, for some of his hybrids were veritable little tigers; and I don't know, by the way, but that it is getting to be a little fashionable to have this sort. Ernest found them with most of the big bee-keepers in York State. Now, I hardly believe they have a preference for such bees; but my opinion is, that it takes so much time to keep the Italians pure they just let them slide; and then, rather than admit this state of affairs, they defend the hybrids. Yes, I know that hybrids gather honey; and I should not be surprised if, taking seasons as they come and go, hybrids, as a rule, would get just as much as pure Italians.

---

### THE INTERNATIONAL AMERICAN BEE-ASSOCIATION.

---

#### FULL PARTICULARS, ETC.

*Friend Root:*—Inclosed find the programme of the I. A. B. A. for the Keokuk meeting. I wish to add to it, that the Business Men's Association of Keokuk have voted to pay for the rent of the commodious G. A. R. Hall out of their own fund, for the use of the bee-men. Thanks will be duly extended to them at the proper time for this generous action.

In regard to the questions to which you call my attention in GLEANINGS for Oct. 1st, I will say that I had already offered some of our own honey to the hotels in question, and had made sure of their having a supply on hand for the use of our bee-men; but to give our members a chance to taste different kinds, as you suggest, I have made another plan, and here it is:

A number of those who have expressed their intention of being present at the meeting have also stated that they would like to visit our establishment. As we are located nearly five miles from the place of meeting, it would be difficult for any one to attend all the sessions and come here at the same time, and I have thought of proposing to the convention to hold the last session at our establishment. We have lately built a new bee and honey house, 20 x 32, which is not yet occupied, and would do for a dining-room, and Mrs. Dadant, Jr., feels equal to preparing, with a little help, one meal for the fraternity of the I. A. B. A. So we might adjourn at 11 A. M. of the last day, and call up the closing meeting at Hamilton, after dinner. At this dinner we shall have a good chance of giving our bee-men a taste of all kinds of honey or honey-cakes which may be brought; and since you have made the first mention of this, I now call upon you to bring us sufficient samples of all that you can procure, or that your readers may wish to bring or send for the occasion. I will see to having the reporters on hand, and to treating them well.

I also propose to start a subscription to offer a premium of, say, \$20.00 for the most palatable dish of any kind—cake, pie, preserves, etc., prepared with honey, said dish to be tested by competent judges at this meeting, and the manner of preparing this dish to be published in GLEANINGS subsequently.

Allow me also to state, that all goods sent for exhibition will be transported to the exhibition room free of charge, if *prepaid to Keokuk*, and addressed to me. I hope our dealers and manufacturers will avail themselves of this offer, and do all they can to make a notable display.

Hamilton, Ill., Oct. 8.

C. P. DADANT.

The following is the programme:

## FIRST DAY.—WEDNESDAY, OCTOBER 29.

9 A. M.—Call to order. Reception of new members. Payment of dues. Appointment of committees for question-box and other purposes.

10.—Address of Welcome.—J. E. Craig, Mayor of Keokuk.

Recess.

11.—“Fifty Years’ Progress in Apiculture.”—Thos. G. Newman, Editor American Bee Journal, Chicago.

Question-box.

1:30 P. M.—“Apicultural Journalism.”—W. Z. Hutchinson, Editor of The Bee-Keepers’ Review, Flint, Mich.

Discussion.

3.—President’s Address.—Hon. R. L. Taylor, Lapeer, Mich.

3:30.—“Honey Pasturage of the U. S.”—A. I. Root, Editor of Gleanings in Bee Culture, Medina, O.

Discussion.

Question-box.

7.—“Apiarian Exhibit at the coming Chicago International Fair.”—Dr. A. B. Mason, Auburndale, Ohio.

Discussion.

Question-box.

## SECOND DAY.—THURSDAY, OCTOBER 30.

8:30 A. M.—“What I Don’t Know about Bee-keeping.”—C. C. Miller, Marengo, Ill.

Discussion.

11.—Condensed reports of the Affiliated Associations in regard to crops and prospects.

Question-box.

1:30 P. M.—“Is It Best to Use Full Sheets of Foundation in Brood and Surplus Combs?”—Eugene Secor, Forest City, Ia.

Discussion.

3.—“Fixed Frames versus Suspended Frames.”—Ernest R. Root, Medina, Ohio.

Discussion.

7.—“The Conditions Necessary to Insure a Honey Crop.”—Prof. A. J. Cook, Agricultural College, Mich.

Discussion.

Question-box.

## THIRD DAY.—FRIDAY, OCTOBER 31.

8:30 A. M.—Business of the Association. Report of Secretary and Treasurer. Election of officers.

11.—“In an Apiary Run for Honey only, are Italians or Hybrids Preferable?”—C. F. Muth, Cincinnati, Ohio.

1:30 P. M.—Volunteer contributions from different sources.

3.—“The International Bee-Association; Its Past and Future.”—W. F. Clarke, Guelph, Ont., Can.

The question-box committee will receive questions at any time, and will appoint different members to answer those that are deemed of sufficient interest or importance.

As this is the first meeting of this International Bee-Association west of the Mississippi, it is hoped that the Western bee-keepers will make an effort to show what the West can do. A number of ladies are expected as usual. The essayists named in the programme will nearly all be present.

A special room on the same floor as the G. A. R. Hall has been secured for exhibits of bees or their products, or implements, and a special committee will report as to their merits.

The Hotel Keokuk, one of the best hotels in the West, a \$3.00 house, will take members at \$2.00 per day. The McCarty Boarding, in Estes House, on the same floor as the G. A. R. Hall, will board members at \$1.00 per day.

Reduced railroad fares have been promised; but at the printing of this programme nothing definite has been given.

Parties wishing to attend will be freely furnished all necessary information and reduced rates if same are to be had.

C. P. DADANT, Sec’y.

## OUR HOMES.

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again.—LUKE 6:38.

Some of you may perhaps say that I have had the same text before, or, at least, a part of it; and I confess that the truth contained in this one verse from Luke is one that I have considered and talked upon over and over, and I don’t know but that I shall continue to talk upon it to the last day of my life. A few days ago the pastor of one of our churches asked me to talk to his people Sunday evening on business and religion—their relations to each other. The congregation was not very large, but it comprised my warm personal friends. Just before I commenced, the pastor whispered to me that the greater part of my own helpers in the factory and on the grounds were among the audience. He said it spoke well for me. I felt it, and I feel glad now when I think of it, that those I meet day by day are, at least the greater portion, warm personal friends. I told them that my first experiments in combining business and religion commenced with my conversion. It was in that same church where I was speaking between fifteen and sixteen years ago, that I announced to those gathered during a union meeting something like this. Said I:

“Dear friends, I have all my life been a busy man, and I propose to be a busy man still; but hereafter, God helping me, it shall be Christ Jesus first, and self second.”

I did not realize how much that public promise and pledge included. But my dear Savior made it known to me what my enlistment meant, right off. When I opened up business next morning, I remembered that there had been a great deal of strife between myself and my next-door neighbor—a jeweler—as to who should sell things cheapest. We were each of us doing a comparatively small business. A silver-plated teaset was a pretty large thing for Medina just then; but we had both invested to the full extent of fifteen or twenty dollars, and a lady had been going back and forth from one store to the other to see who would sell lowest.

She came into my store that very morning, and said she thought she would take the one belonging to my neighbor, unless I could come down a little more in the price. I told her I had decided not to offer it any cheaper; in fact, I had made up my mind to let my brother in trade make the sale. She seemed right away to gain confidence in me, and began to ask my advice something as follows:

“Mr. Root, do you really believe that his set is just as good quality as your own?”

This question was a stunner. A week before, I should have assured her that it could not compare with the old established brand of — & —. I thought a minute before replying. I knew the reputation of his plated ware very well, and tried to put myself outside of business while I answered truthfully before the Savior whom I had promised to honor and serve. I told her, finally, that I felt quite sure that his was good—probably there was but very little difference. Then she remarked that the other man told her that he *bought* cheaper than I did, and that was the reason why he could sell lower. She asked if I thought this was true. What should a follower of Christ Jesus answer? I told her pleasantly that I paid prompt cash, and that I thought I got goods very low; but I added that it was still possible that he did buy a little lower than I did. Now came the last trying question:

"Mr. Root, I have bothered you a great deal already, and I feel a little bit ashamed for having made you so much trouble. I hope you will not think unkindly, but I think I should prefer the other set at the price."

By this time I had so far overcome self that I made up my mind that I would finish up the transaction for Christ Jesus, even if the goods did remain on my hands. I answered promptly something as follows:

"Why, my good friend, we are both anxious to sell, and I confess I rather need the money; but my friend — has not been as long in business as I have, and I suppose he needs the trade more than I do. What is my loss will be his gain, and on the whole I shall feel quite well satisfied to have him make the sale."

I put the teaset back in its glass case, and my customer went away. For several days I lost the sale of article after article, turning the trade right over to him. But a new peace and joy had begun to fill my soul. There were times when I felt a little doubt about the outcome; but it was not long. Pretty soon my rival in business came down to inquire what had happened. Perhaps I should tell you that, for weeks or months before, we had been assailing each other through our county paper. Both of us bragged of our acuteness, and spoke sneeringly of the other. The change was so sudden, however, on my part, that it startled folks just a little. When he came down to see me he was changed too. Said he, "Mr. Root, if this is religion, I, too, want to be a Christian."

Is it any thing surprising, dear friends? It was not many days before it was my pleasure to kneel with him in prayer, and to hear him ask the dear Savior for mercy and pardon. Our relations from that time to this have always been pleasant. How could they be otherwise?

Now for the other part of the transaction. Did I really lose? Why, bless your heart, no. From the moment I took that stand, and began to make the little text at the head of our chapter my motto in life, my whole life was changed. I not only rose up out of the miry clay in spiritual matters, but it was the same in business. Please, now, do not think that I wish to exalt A. I. Root in what I am going to say, for you who have known me long and known me better will believe me when I say that I wish Christ Jesus, whom I try to serve, to have the glory and honor, and by no manner of means my poor self. Well, this is what I want to say: From the moment I stopped this little petty quarreling over who should be first, or who should have the trade, my reputation as a business man began to extend over a wider field. Every thing grew and prospered on my hands. God seemed pleased to verify his many promises in blessing all my undertakings.

In times past I have told you about answers to prayer, in the line of pecuniary matters. Don't imagine that, because I have ceased to speak of these things, such experiences come no more. I have thought best not to speak of them, because there is great danger of being misunderstood. But I want to speak of one right here. When I began giving employment to women and children who were left destitute of husband or parents, a great many times I undertook to give more work than I had work for them to do. In this dilemma I prayed that God would sharpen my business perceptions and abilities. I prayed, too, that he would send me the money, or tell me how I could get it. Let me tell you of one marked answer to such prayers. A hundred-dollar bill came in a plain envelope—no scrap of writing with it. It came just after I had been asking God for means. I was startled somewhat, but I told the clerk who opened the mails that somebody had sent it in

a hurry, and that the order would probably come in the next mail. The next mail, however, did not bring any order, nor did it come for a week or two. It began to look very strange and unaccountable. Finally one of the good bee-friends wrote something like this:

"By the way, Mr. Root, I suppose you got that hundred-dollar bill I mailed you some days ago. I took it in a trade, when I was away from home, and I did not want to carry it around with me, so I just put it in an envelope and mailed it to you. I wanted it somewhere where it would be safe, and I knew that, if it got into A. I. Root's hands, it would be all right until I called for it."

There, friends, is a lesson for you. In holding fast to the Bible promise in carrying out my queer ways and fashions, as some called them, I was unconsciously laying the foundation of the great business that has been built up around me. Some called it a sharp trick of mine to advertise. Dear friends, it was no sharp trick at all. I had no idea of the outcome. My course of action sprang from a simple, honest determination to serve Christ Jesus by letting him come first, and self second. My experience has only verified the beautiful little text where Christ says, "Then shall the righteous answer him, saying, Lord, when saw we thee a hungered, and gave thee no meat? or thirsty, and gave thee no drink?" It was just so in my case. I built up a reputation without knowing it. Now, friends, you can do the same thing. If you are constantly straining every nerve and faculty for *self*, you will miserably and utterly fail. If, however, you are constantly and honestly seeking to put down self and exalt Christ Jesus, even in business matters, then shall you be built up. The above, you see, is put in my own words. Read how Jesus put the same thought about being exalted: "For whosoever will save his life shall lose it; but whosoever shall lose his life, for my sake and the gospel's, shall save it."

Perhaps some one may say, "Then there was no answer to prayer about it. The money came because this friend had confidence in you, and not because of your prayer." Not so, my good friend. God heard the prayer, and answered it, but he would not have heard it and answered it had I not been in that attitude of heart so that he could consistently hear and answer. A beautiful little text in the Psalms strikes the whole matter: "If I regard iniquity in my heart, the Lord will not hear me." You know the promise is, "Whatsoever ye shall ask in my name it shall be given you." The thing asked for or prayed for must be in Christ's name; and he who expects answers to his prayers must in his daily life strive to follow Jesus Christ.

I now wish to give you a letter which came to me just a few days ago. Without the preface of a talk I have just given you, I should hardly dare put it in print. The good friend who penned it exaggerates in his kind comments on my poor self, or he does not know me very well. He has, perhaps, had only glimpses of that better spirit which occasionally shows itself through my actions. I only wish I deserved half of what he says. As he pictures forth in his letter what a good man and a follower of Jesus Christ *ought* to be, I have thought best to give it. When you read it, please do not think it belongs to me, but think of it as a beautiful sketch of what any Christian man or woman *may be* if really hungering and thirsting after righteousness.

*Friend Root:*—I wish to say that I have dealt with you during the past eight or ten years, and during all those years I have *ever* found you the same—obliging and accommodating, almost to a fault. If you made a mistake, you have always stood ready to correct it. If I made one, you kindly called my at-

tention to it. If goods were received damaged or short count, you always replaced them, even if to do so it cost you *double their value*. I do not wonder at your being overrun with orders, and that every other year or so you are obliged to enlarge your facilities to accommodate your increasing business. People will cheerfully send long distances, and pay heavy freight charges, when they know that by so doing every thing they receive will be just as it was represented to be. I have had considerable dealing with strangers, or people living at a distance, and I know a little of the self-denial it takes to meet complaints and bear losses for which one is in no way responsible. I have received much encouragement from your Home talks. It does me good to read of your trials and experiences, because they are so much like my own. May your life be spared unto us many years yet is my prayer. J. D. BRANDS.

Warrington, N. J., Sept. 30.

Perhaps it will be well to look into the circumstances that caused our friend to write such a letter as the above. He was one of the many whose goods were delayed last spring; and when the time came to make payment he was behind; therefore he wrote us as follows. You will observe that the date is earlier than in the letter given above.

*Friend Root:*—I believe that the time allowed me on your bill of June 19 will be up on Friday, the 19th inst. I fear that I shall not have the money by that date, but I think I may be able to pay you a part or the whole of it some time during the week following. The man whom I ordered the goods for refused to take them because of the lateness of the season when they reached me, so I am obliged to carry them over until another year. Will you please send me a postal, stating thereon the full amount, with interest, due you up to date? J. D. BRANDS.

Warrington, N. J., Sept. 15.

From the above you will see that our book-keepers had been asking him to pay interest. As soon as the transaction came to my eye I remonstrated against asking him for interest at all; but the book-keepers replied that this was according to the rule, and suggested that a different rule be made, where customers have been put out because of our delay in filling orders. Now, friends, please do not get the idea that I am the *only* one in our establishment who strives to love his neighbor as himself. The head book-keeper fell in with the suggestion with a hearty good will; and I find on the back of his letter she dictated about as follows:

"My good friend B., under the circumstances we shall make you no charge for interest, and you need not pay until another year unless it is convenient. If convenient to pay now, you may deduct interest on the whole amount of the value of the goods for one year."

Now, the above is only simple justice. Any supply-dealer who is so far behind in filling orders that the purchaser is obliged to keep the goods over until another season, should not ask pay for them until the customer is ready to order them for another season. If he has already paid for them, he ought to have a rebate equal to the value of the money, for the year he is out of the use of it. This is simply, in my opinion, doing as you would be done by; and even then it does not make up for the disappointment and perhaps heavy loss resulting from not having the goods when they were wanted. If we who are dealing in supplies will come up to this standard, perhaps it would help us to be a little more prompt in filling orders. It may be said, on our side of the question, that no one should wait for goods until he is ready to use them. This is true; but at the same time, every supply-dealer ought to be able to fill an order, say within 30 days after its receipt. If he can not he should pay damages to a reasonable extent. If the two parties can not agree as to just what the damages should be, I would resort to arbitration. Let me say, to the credit of our customers, that, although I have repeatedly asked

them to send in their bill for damages (where the fault was ours and not the railroad company's), as yet very few indeed have asked damages. Only one man has made a claim that we could not consistently pay. This man wanted \$25.00 damages where the goods he purchased really amounted to only about half that amount. We have only once been called upon to pay for the loss of a honey crop, and this was where the circumstances were very aggravating—see Homes for Aug. 1. This was where one of our clerks made Bracken County to read Breckenridge County; and as this blunder caused the friends to be looking for their goods day by day, and thereby lose the honey-crop, we decided to pay the full amount. The one who changed the name of the county paid \$8.00; the two women who passed that postal card by, paid each \$4.50 for their carelessness, and I paid \$18.00, making altogether \$35.00 for the loss of a honey crop.

Now, to those who say they can not stand such a way of doing business, I feel like repeating my favorite little text: "O ye of little faith! wherefore do ye doubt?" But, please remember that I do not advise that anybody should throw away his goods or money in a loose and slipshod sort of way. This would not be according to the Scriptures at all. In my talk about managing horses, in our previous issue, I told you the horse must be firmly disciplined, and that the rod should not be spared when *needed*. So it is in business. We are by no manner of means to let those who are evil-disposed run over us. To let people make their own terms in a lazy, shiftless sort of way, is entirely another thing. But when you have wronged a neighbor or customer by a delay or by a blunder, *make haste* to do as you would be done by; and as it is only human to be selfish, I would recommend that you go a little *beyond* the mark, to make sure of being just. Our text says, "Good measure;" and it also tells us that those who give good measure shall get good measure in return. Faith in God is a grand thing; and faith in a fellow-man is a grand thing also. When you give good fair measure and good quality, please have faith enough in your fellow-man to believe it will all come back again—yes, "shaken together and running over."

Now a few words more in regard to gaining the confidence, esteem, faith, and good will of this great outside world round about us. Who can tell what a reputation is worth? The Bible says, "A good name is rather to be chosen than great riches;" and, O my friends, I am sure—in fact, I become surer of it every day—that no one begins to know the half of the truth implied in this little text. The untutored savage—"savage" is not quite the word after all—the man or boy of the *world* who is profoundly ignorant of Bible precepts, and who knows nothing of the spirit of Christ Jesus, may be excusable for thinking that, if he saves a few cents each day by cheating and sharp practice, he will ultimately become rich. Ten cents a day would be \$30.00 a year, and in ten years this would be \$300.00. Why, he would not have enough to buy a farm, even if he cheated ten cents' worth every day for a *lifetime*. Yet a great many seem to think they can lay up property by *cheating*. Well, now, suppose, on the other hand, he *loses* 10 cents a day in the effort to be fair and honorable, and to give, in the language of the text, as he expects it to be given to him. He may be 10 cts. out of pocket for a few days, without getting anything back; but pretty soon somebody will feel grateful for these few cents given for *Christ's sake*, and he will remember it, and watch for an opportunity to pay it back. And, dear friends, it is only human nature for him to pay it back *twice over*, or more. It is also hu-

man nature for him to speak of it to his friends. "That man actually paid me 10 cents a bushel more for my wheat than he agreed to." You know I told you a short time ago of how Mr. F. Schumacher, of the Akron Mills, paid a man 10 cents a bushel more for his wheat than he agreed to pay. Such kind of work soon gets to be a big advertisement. It goes from mouth to mouth. People say, "That man is honest. You can depend upon it, he will do all he agrees to, and a little more, every time." Suppose a commission man who sells honey should commence by promising little, and in every transaction doing a little more than he promises. He would soon get the good will of the whole bee-keeping world. The reason is, that such things are so uncommon. Why, dear friends, there is a great unexplored region in this direction, in this matter of doing business according to the precepts of the Bible; and, oh what fun it is to just repeat one of these little Bible texts, when something comes up to make it fit just nicely!

Now, friends, I think you see the point of our little text; and you see how Christianity can be applied to business. "Fervent in spirit, serving the Lord." Do not, I beg of you, let A. I. Root monopolize this whole matter of building up a great business, with *Bible texts* for a foundation. Run opposition to him; beat him in his own line; *outdo* him in generous acts and love to your fellows. Don't you see how ridiculous it is? In Christianity there is *no* rivalry. There is not any select few in the prayer-meeting. If you have an enemy in the world, *there* is just where you want to see him, for he is just the man you long to do good to, above all other men. "Love ye your enemies, and *do good* to them that hate you." Do you fear there is no room in this world for us all, if we should *all* become Christians? "O ye of little faith!" The resources of a great Father above are beyond *all computation*. If this world is not large enough for the wonderful achievements that are about to be brought forth *in his name*, the whole planetary system is at his command. He *himself* has said (Malachi 3:10). "Prove me now herewith, saith the Lord of hosts, if I will not open the windows of heaven and pour you out a blessing that there shall not be room to receive it."

---

## EDITORIAL.

---

He shall be like a tree planted by the rivers of water; and whatsoever he doeth shall prosper.—Ps. 1: 3.

---

### "GREAT INGENUITY."

ON page 711 of our last issue (I won't lay it to the poor types this time) I notice I said, "It took very great ingenuity" to modify the Benton cage for introducing. I would say nothing about it, only it looks as though I were lauding myself pretty highly for making only a very slight improvement. What I meant to have said was, that "it took *no* very great ingenuity," etc.

E. R.

### NO REDUCED RAILROAD RATES FOR THE INTERNATIONAL.

IN another column we give the programme of the I. A. B. A. It was not published as soon as was expected, because the secretary was waiting to hear what rates the Western Traffic Association would allow. After a long delay and much correspondence, we have been obliged to say we shall probably get no reduced rates. Remember the date and place of the next meeting,

Keokuk, Oct. 29, 30, 31, and come anyhow. Ernest and I expect to be present every day.

### OUR DAILY BREAD.

WHEN I dine at the large hotels, or on the Pullman cars, I always pay particular attention to the *bread* and the way in which they serve hot cakes—the latter especially, if it is accompanied with nice honey. Well, during the last month or two we have been feasting on the nicest product in the bread line that it has ever been our fortune to hear of. And what do you think it is? Why, simply gems made of flour and water—not another thing, except a little baking-powder (we use Cleveland's), a teaspoonful to a pint of flour, to make them light. Mrs. Root found the recipe in a newspaper; and we prefer these gems so greatly to any thing else that all other kinds of hot cakes made of milk, eggs, etc., are abandoned. You will want a Hunter's sifter, then run your flour and baking-powder through it three times, to mix thoroughly, and to work in plenty of air. Now mix with cold water until right (say of the consistency of cake) to ladle with a spoon into the gem-irons. These should be heated on top of the stove until *quite hot*; then ladle in your dough, bake in a *very hot* oven, and pass them around. When I am in a hurry I just break one open, leaving it hinged at one side like a snuff-box (I do not like the illustration, but I can not think of any other). Open the lid wide enough to put in a generous slice of butter, spreading it along a little, then shut the lid down, and eat as many as you like. When you are pretty nearly satisfied, put in some alfalfa or mountain-sage honey, and you can then probably eat about as many more. You need a glass of milk to go along with them; and if you are doing severe outdoor work a small *pitcher* of milk right by the glass will come handy. If this sort of diet, "milk and honey," does not give you strength and vigor, there is something the matter. Huber says these gems just from the oven are as nice as hot popcorn balls; and, in fact, they *have* much the flavor of nice popcorn. While flour made of nice selected wheat is a little nicer for the purpose, you *can* make beautiful light cakes of the *cheapest* flour to be found in the market. In fact, the way we discovered it was by having a sack of flour that Mrs. Root said she could not possibly make into decent bread, and she had tried and *tried* until she was about as desperate as—your wife gets under similar circumstances. If your wife has some flour that will not make nice bread, then tell her to make it into gems as above. If you have not a gem-iron, use gem-tins or small shallow tin basins, or even pie-tins. They are nice, anyhow you can fix them; but, if you want the real *popcorn* flavor, you will need cast-iron gem-irons. They are just as good when cold, as any bread; and if we have any left over for supper, they always go off like "*hot* cakes."

## THE HONEY MARKET.

The demand for honey still continues good, and we have already disposed of about one-third of each of the two car loads mentioned in last number; and those who received it are well pleased, as the following will testify:

## OUR NEVADA COMB HONEY.

Honey arrived to-day in very fine condition. It is as fine as I ever saw. It fills your description exactly. Thanks for packing so carefully.

JAMES A. BOCK.

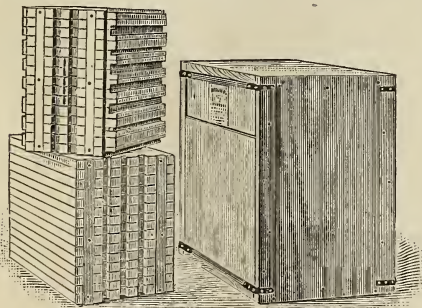
Farmington, W. Va., Oct. 8, 1890.

We can get more extracted honey of the same quality when this is gone; but comb honey seems to be pretty well taken up, and there is almost sure to be a scarcity this winter. Those in want of honey will find our prices in last number, 18 to 20c for comb, 9 to 11 for extracted, according to the quality you take.

## THE DOVETAILED HIVE IMPROVED.

In another department of this number you will find a discussion of the merits and improvements on the Dovetailed hive as we are now making it for the season of 1890-91. We give here the revised table of prices, which you will find, by comparison with the old table, are a little higher in most cases. This slight advance is necessary because of the increased cost of the hive as improved. That you may understand the difference between the new hive and the old one, we repeat briefly the changes which we consider marked improvements. The hive and supers are  $\frac{1}{2}$  in. wider: instead of being 11 $\frac{1}{2}$  inches wide inside, they are 12 $\frac{1}{2}$ . This makes room for the addition of a dummy or division-board in the brood-chamber, which is to be first removed before handling the frames. This additional  $\frac{1}{2}$  inch gives room in the supers for a follower and wedge, making it possible to have side pressure on the sections, which is so desirable. These division-boards, followers, and wedges are worth fully 15 cents per hive, and are added. Thick top frames with comb-guides or wire are used, and are worth a little more than the old style. Then there is the added width, a very small item. Out of the cost of these extras is to be taken the cost of slatted honey-board, which is left out entirely, unless ordered and paid for extra. We estimate the additional cost of these extras at 10 cents per hive; yet we have added nothing to the price of No. 1 complete, and only 5 cents to No. 2 complete, and 8 and 10 cents respectively to Nos. 1 and 2 empty.

We now make the bottom slats to the section-holders  $\frac{1}{2}$  inch thick instead of  $\frac{3}{8}$ , as formerly, because a few have had trouble with the light bottoms sagging. Dealers who do not make their own hives, and those who supply their neighborhood, can find nothing more convenient to handle or that will give their customers better satisfaction. The hives are all packed complete in lots of 5, in the flat, as shown below.



5 DOVETAILED HIVES PACKED FOR SHIPMENT.

A box is made of the cover and bottom-boards, in which is packed the cleats and frames and inside fixtures, and the sides and ends of bodies and supers are cleated together as shown. You have to pay freight on nothing but the bare hives, and the cost of crating is reduced to almost nothing. Those wishing to handle them will do well to write for terms, stating about how many they can use.

## DESCRIPTIVE LIST OF DOVETAILED HIVES.

None of these hives include tin on the covers or foundation for the brood-frames. Our experience is, that flat covers, well painted both sides, are better without tin; but we will add a sheet of tin, if so ordered, for 5c extra. If you get the tin, though, you will regret it. If you want to add the tin afterward, the cost of the tin alone is 10c.

No. 1 Dovetailed hive, 8 frame, complete, a 1 $\frac{1}{2}$  story hive for comb honey, as shown in first cut on page 744, includes bottom-board; a body with eight thick top-frames and division-board; one super with a follower and wedge; 6 section-holders with tin separators, sections, and foundation starters, and flat cover.

No. 1E is the same hive leaving out the separators, sections, and starters; but every thing else mentioned is included.

No. 2 Dovetailed hive, 8 frame complete, includes just the same as No. 1, and another super with contents added, making a 2-story hive for comb honey.

No. 2E is the same as No. 2, leaving out separators, sections, and starters.

No. 3 and 3E are the same as No. 1 and 1E, except that they have T tins instead of section-holders in the supers.

No. 4 and 4E, same as No. 2 and 2E, with T tins instead of section-holders.

No. 5 Dovetailed hive, 8 frame, complete, is a 2-story hive for extractor, and includes bottom and flat cover, two bodies with 16 thick top-frames and two division-boards.

## PRICE LIST OF DOVETAILED HIVES.

Order by number, and carry out the price.

NUMBER AND NAME.	Nail, parts each.	IN FLAT.			Weight of 10
		each.	5	10	
No. 1 Dov. hive complete .....	1.50	1.20	5.50	10.00	300 lbs.
No. 1 E, Dov. hive (empty) .....	1.00	1.00	4.50	8.00	280 lbs.
No. 2 Dov. hive complete .....	2.00	1.60	7.50	14.00	380 lbs.
No. 2 E Dov. hive (empty) .....	1.20	1.20	5.50	10.00	340 lbs.
No. 3 Dov. hive complete .....	1.50	1.20	5.50	10.00	300 lbs.
No. 3 E Dov. hive (empty) .....	1.00	1.00	4.50	8.00	280 lbs.
No. 4 Dov. hive complete .....	2.00	1.60	7.50	14.00	380 lbs.
No. 4 E Dov. hive (empty) .....	1.20	1.20	5.50	10.00	340 lbs.
No. 5 Dov. hive complete .....	1.60	1.20	5.50	10.00	340 lbs.
Hoffman frames instead of thick top frames 5c per hive extra.					
Closed end frames " " " " " "			5c	"	"
Metal cornered " " " " " "			10c	"	"
Van Deusen Reversible " " " " " "			10c	"	"

In No. 5 the extra price for above frames is double above rate.

Honey-boards may be added at price in table of honey-boards.

Hives furnished with gable covers and super covers, instead of flat cover, 15c per hive extra.

Hives with tinued covers, 5c each extra.

The tin for covers ordered separately, 10c each.

We will make the Dovetailed hive 10-frame instead of 8-frame, in any of above numbers, as follows:

Nailed and painted, complete, 25 cts. each extra.

In flat, complete, 20 cts. each extra.

In flat, empty, 15 cts. each extra.

## DISCOUNTS FOR QUANTITY.

For 20 hives, deduct 2 per cent. | For 50 hives, deduct 5 per ct.  
 For 30 hives, deduct 3 per cent. | For 60 hives, deduct 6 per ct.  
 For 40 hives, deduct 4 per cent. | For 80 hives, deduct 8 per ct.  
 For 100 hives or more, deduct 10 per cent.

## NAILS SUITABLE FOR ABOVE HIVES.

	Price for 1	5	10
Nails for No. 1 Dovetailed hive .....	10	25	45
Nails for No. 2 Dovetailed hive .....	10	30	55

Nails for Nos. 3 and 4, same as for Nos. 1 and 2 respectively, and for 10-frame same as for 8-fr. hives.

## PRICE LIST OF DOVETAILED-HIVE PARTS.

NAME OF PART.	N'd, each.	P'd, each.	IN FLAT, each.	Weight of 10
8-fr. Dov. bottom-board .....	.12	.15	.10	.80
8 fr. Dov. flat cover .....	.18	.20	.15	1.20
8 fr. Dov. gable cover .....	.30	.35	.25	2.00
8 fr. Dov. body, empty .....	.30	.35	.25	2.00
8 fr. Dov. super, empty .....	.18	.20	.15	1.00
8 fr. Dov. super, sec. holders ..	.24	.25	.25	2.00
8 fr. Dov. super, with T tins ..	.24	.25	.25	2.00
8 fr. Dov. sup., comp., sec., etc.	.48	.50	.45	4.00
10 fr. Dov. bottom .....	.14	.18	.12	1.00
10 fr. Dov. flat cover .....	.20	.24	.18	1.50
10 fr. Dov. gable cover .....	.35	.40	.28	2.50
10 fr. Dov. body, empty .....	.35	.40	.30	2.50
10 fr. Dov. super, empty .....	.18	.20	.15	1.30
10 fr. Dov. super, sec. holders ..	.28	.30	.25	2.30
10 fr. Dov. super, with T tins ..	.28	.30	.25	2.30
10 fr. Dov. super complete .....	.52	.55	.50	4.50

For the same quantity of parts the same discount will apply as on complete hives.

# GLEANINGS IN BEE CULTURE.

## Books for Bee-Keepers and Others.

Any of these books on which postage is not given will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale*, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a \*; those I *especially* approve, \*\*; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §. The bee-books are all good.

### BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.

8	Bible, <i>good print</i> , neatly bound.....	25
10	Bunyan's Pilgrim's Progress**.....	35
6	First Steps for Little Feet. By the author of the Story of the Bible. A better book for young children can not be found in the whole round of literature, and at the same time there can hardly be found a more attractive book. Beautifully bound, and fully illustrated. Price 50c. Two copies will be sold for 75 cents. Postage six cents each.	
5	Harmony of the Gospels.....	35
3	John Ploughman's Talks and Pictures, by Rev. C. H. Spurgeon*.....	10
1	Gospel Hymns, consolidated Nos. 1, 2, 3 and 4, words only, cloth, 10c; paper.....	05
2	Same, board covers.....	20
5	Same, words and music, small type, board covers.....	45
10	Same, words and music, board covers.....	75
3	New Testament in pretty flexible covers.....	05
5	New Testament, new version, paper cover.....	10
5	Robinson Crusoe, paper cover.....	20
4	Stepping Heavenward**.....	18
15	Story of the Bible**.....	1 00
A large book of 700 pages and 274 illustrations. Will be read by almost every child.		
5	'The Christian's Secret of a Happy Life'*.....	25
8	Same in cloth binding.....	50
1	'The Life of Trust,' by Geo. Muller**.....	1 25
1	Ten Nights in a Bar Room, by T. S. Arthur*.....	03

### BOOKS ESPECIALLY FOR BEE-KEEPERS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each [Price without postage.

15	A B C of Bee Culture Cloth.....	1 10
5	A Year Among the Bees, by C. C. Miller.....	45
14	Bees and Bee-keeping, by Frank Cheshire, England, Vol. I. §.....	2 36
21	Same, Vol. II. §.....	2 79
or, \$5.25 for the two, postpaid.		
	Bees and Honey, by T. G. Newman.....	1 00
15	Cook's New Manual Cloth.....	1 35
5	Doolittle on Queen Rearing.....	95
2	Dzierzon Theory.....	10
1	Foul Brood; Its management and cure; D. A. Jones.....	09
1	Honey as Food and Medicine.....	5
10	Langstroth on the Hive and Honey-Bee*.....	1 40
15	Langstroth Revised, by Ch. Dadant & Son.....	1 85
10	Quinby's New Bee-Keeping.....	1 40
10	Queen-Rearing, by H. Alley.....	1 00
4	Success in Bee Culture, by James Heddon The Production of Comb Honey, by W. Z. Hutchinson.....	46

	The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England. British Bee-Keeper's Guide - Book, by Thos. Wm. Cowan, Esq., England.....	25
3	Merrybanks and His Neighbor, by A. I. Root.....	1 75

### MISCELLANEOUS HAND-BOOKS.

5	A B C of Carp Culture,*.....	35
3	A B C of Potato Culture, Terry**.....	35
This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with friend Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations.		
5	An Egg-Farm, Stoddard**.....	45
	Barn Plans and Out-Buildings*.....	1 50
	Cranberry Culture, White's.....	1 25
	Canary Birds; paper, 50c; cloth*.....	75
	Draining for Profit and Health, Warring.....	1 50
5	Eclectic Manual of Phonography; Pitman's System; cloth.....	50
6	Fuller's Practical Forestry*.....	1 40
10	Fuller's Grape Culturist**.....	1 40

10	Farming For Boys*.....	1 15
----	------------------------	------

This is one of Joseph Harris' happiest productions, and it seems to me that it ought to make farm-life fascinating to any boy who has any sort of taste for gardening.

7	Farm, Gardening, and Seed-Growing**.....	90
---	--	----

This is by Francis Brill, the veteran seed-grower, and is the only book on gardening that I am aware of that tells how market-gardeners and seed-growers raise and harvest their own seeds. It has 186 pages.

10	Gardening for Pleasure, Henderson*.....	1 40
----	---	------

While "Gardening for Profit" is written with a view of making gardening pay, it touches a good deal on the pleasure part; and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. I think most of you will need this if you get "Gardening for Profit." This work has 246 pages and 134 illustrations.

12	Gardening for Profit, new edition**.....	1 85
----	--	------

This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts.

	Gardening for Young and Old, Harris**.....	1 25
--	--	------

This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of this book. It has 187 pages and 46 engravings.

10	Garden and Farm Topics, Henderson**.....	75
----	--	----

	Gray's School and Field Book of Botany.....	1 80
--	---	------

5	Gregory on Cabbages; paper*.....	25
---	----------------------------------	----

5	Gregory on Squashes; paper*.....	25
---	----------------------------------	----

5	Gregory on Onions; paper*.....	25
---	--------------------------------	----

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

10	Household Conveniences.....	1 40
----	-----------------------------	------

2	How to Propagate and Grow Fruit, Greer*.....	25
---	--	----

5	How to Make Candy**.....	45
---	--------------------------	----

2	Injurious Insects, Cook.....	25
---	------------------------------	----

10	Irrigation for the Farm, Garden, and Orchard, Stewart*.....	1 40
----	---	------

This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present day. The book has 274 pages and 142 cuts.

10	Money in The Garden, Quinn*.....	1 40
----	----------------------------------	------

3	Maple Sugar and the Sugar-Bush,**.....	35
---	--	----

By Prof. A. J. Cook. This was written in the spring of 1887, at my request. As the author has, perhaps, one of the finest sugar-camps in the United States, as well as being an enthusiastic lover of all farm industries, he is better fitted, perhaps, to handle the subject than any other man. The book is written in Prof. Cook's happy style, combining wholesome moral lessons with the latest and best method of managing to get the finest sugar and maple syrup, with the least possible expenditure of cash and labor. Everybody who makes sugar or molasses wants the sugar-book. It has 42 pages and 35 cuts.

1	Poultry for Pleasure and Profit**.....	10
---	--	----

11	Practical Floriculture, Henderson*.....	1 35
----	---	------

	Peach Culture, Fulton's.....	1 50
--	------------------------------	------

10	Profits in Poultry*.....	90
----	--------------------------	----

2	Silks and the Silkworm.....	10
---	-----------------------------	----

10	Small-Fruit Culturist, Fuller*.....	1 40
----	-------------------------------------	------

10	Success in Market-Gardening*.....	90
----	-----------------------------------	----

This is new book by a real, live, enterprising, successful market-gardener who lives in Arlington, a suburb of Boston, Mass. Friend Rawson has been one of the foremost to make irrigation a practical success, and he now irrigates his grounds by means of a windmill and steam-engine whenever a drought threatens to injure the crops. The book has 238 pages, and is nicely illustrated with 110 engravings.

	The Silo and Ensilage, by Prof. Cook, new edition, fully illustrated.....	20
--	---	----

5	Strawberry Culturist, Fuller*.....	20
---	------------------------------------	----

	Talks on Manures*.....	1 75
--	------------------------	------

This book, by Joseph Harris is, perhaps, the most comprehensive one we have on the subject, and the whole matter is considered by an able writer. It contains 366 pages.

2	The Carpenter's Steel Square and its Uses; Hodgson; Abridged.....	15
---	---	----

10	The New Agriculture, or the Waters Led Captive.....	75
----	---	----

2	Treatise on the Horse and his Diseases.....	10
---	---	----

3	Winter Care of Horses and Cattle.....	40
---	---------------------------------------	----

This is friend Terry's second book in regard to farm matters, but it is so intimately connected with his potato-book that it reads almost like a sequel to it. If you have only a horse or a cow, I think it will pay you to invest in the book. It has 44 pages, and 4 cuts.

8	What to Do, and How to be Happy While Doing It, by A. I. Root.....	50
---	--	----

3	Wood's Common Objects of the Microscope**.....	47
---	--	----

Address your orders to

A. I. ROOT, Medina, O.

# Our Motto: BEST GOODS at LOWEST PRICES.

The Immense Demand for our Hives, Sections, Comb Foundation, and other Bee-Keepers' Supplies, during last season, was more than we were prepared to take care of, and in consequence, like many of our competitors, we were at times very much behind our orders, causing much dissatisfaction to our customers. However, we tried to do justice to all.

We take pleasure in announcing to our friends, that we have more than doubled our capacity by large additions to our factory and machinery, and we will hereafter be able to supply all your needs promptly, with goods of which the material and workmanship can not be excelled.

LARGE ILLUSTRATED CATALOGUE FREE.

Address **The W. T. FALCONER MFG. CO.,**  
Jamestown, N. Y.

**USUAL WINTER DISCOUNTS ARE NOW GIVEN.**

In response to this advertisement mention GLEANINGS.

ESTABLISHED IN 1864.

## BEE SUPPLIES.

We have the largest steam-power shops in the West, exclusively used to make EVERYTHING needed in the Apiary, of practical construction and at the LOWEST PRICES. Italian bees, queens, 12 styles of Hives; Sections, Honey-Extractors, Bee Smokers, Feeders, Comb Foundation, and everything used by bee-keepers, always on hand. Address **E. KRETCHMER, Red Oak, Iowa.**

40-page Illustrated Catalogue FREE TO ALL. In responding to this advertisement mention Glean.

**The Ullmann & Philpott Mfg. Co.,**

89-93 MERWIN ST., CLEVELAND, O.

Manufacturers of Fine Black and Colored

## PRINTING INKS.

This Journal is Printed with our Inks.  
Mention Gleanings. 24 22d

## MUTH'S

**HONEY - EXTRACTOR,**

SQUARE GLASS HONEY-JARS,

TIN BUCKETS, BEE-HIVES, HONEY-

SECTIONS, &c., &c.

**PERFECTION COLD-BLAST SMOKERS.**

Apply to **CHAS. F. MUTH & SON,**  
Cincinnati, Ohio.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-keepers." Mention Gleanings. 1tfdb

## SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

**J. STAUFFER & SONS,**  
Successors to B. J. Miller & Co.,  
Nappanee, Ind.

16-tfdb In responding to this advertisement mention GLEANINGS.

1890 **ITALIAN-QUEENS FOR BUSINESS.**  
18tfdb **W. H. LAWS, Lavaca, Ark.**

## SPECIAL CROPS.

A magazine for advanced agriculturists; 25 cts. per year; sample 7 cts. Also, Black Minorcas, B. Leghorns, and S. Wyandottes; eggs of either, per setting, 75 cts.; 26 at one time, \$1.00. 4-50d

**C. M. GOODSPEED, Skaneateles, N. Y.**  
In responding to this advertisement mention GLEANINGS.

## \*THE CANADIAN\*

**Bee Journal Poultry Journal**

Edited by D. A. Jones. Edited by W. C. G. Peter.

75c. Per Year.

75c. Per Year.

These are published separately, alternate weeks, and are edited by live practical men, and contributed to by the best writers. Both Journals are interesting, and are alike valuable to the expert and amateur. Sample copies free. Both Journals one year to one address \$1. Until June 1st we will send either Journal on trial trip for 6 months for 25 cts.

**The D. A. Jones Co., Ltd., Beeton, Ont.**  
Please mention GLEANINGS. 6-11db

## THE "REVIEW."

SOME OF THE TOPICS IT HAS DISCUSSED.

"The Production of Comb Honey," was the special topic of the April number.

"How to Raise Extracted Honey," was discussed in the May issue.

"Comforts and Conveniences for the Apiary," were named and described in June.

"From the Hive to the Honey Market," was the topic of the July issue.

"Marketing," will be the Special topic of the August number.

The "Review" is published monthly, at 50 cts. a year. Send for samples (free) and see if you can afford to be without it.

Address **Bee-Keepers' Review,**  
W. Z. HUTCHINSON, Ed. & Prop. Flint, Mich.

## TAKE NOTICE!

**BEFORE** placing your Orders for **SUPPLIES,** write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. Address

**R. H. SCHMIDT & CO.,**  
21-20db NEW LONDON, Waupaca Co., WIS.  
In responding to this advertisement mention GLEANINGS.

**HOME EMPLOYMENT.**—AGENTS wanted every where, for the **HOME JOURNAL**—a grand family paper at \$1 a year. Big cash premiums. Sample FREE. **THOS. G. NEWMAN & SON,** 246 East Madison Street, CHICAGO, ILLS.